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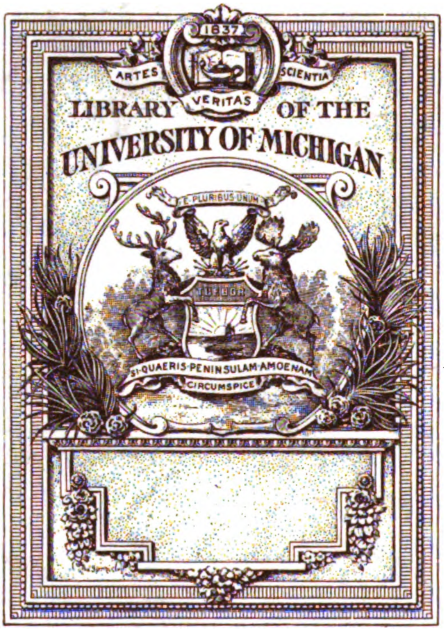
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GUNSHOT INJURY OF THE SHOULDER.

Read before the Academy of Medicine, Dec., 5th, 1881,

By JOSEPH RANSOHOFF, M.D., F.R.C.S.,
Prof. of Anatomy and Clinical Surgery in the Medical College of Ohio.

ON the night of October 4th, I was summoned to the bed-side of a young woman, æt. 30, who had accidently received a gunshot wound of the right shoulder. I found the patient thoroughly conscious, neither depressed from shock nor suffering from loss of blood. An examination of the right arm and shoulder revealed the wound of entrance on the outer side of the arm, about one and one-half inches below the acromion process. From the wound into which a pencil could easily have been introduced, there oozed a slight amount of blood. With the arm at rest by the side of the body, the probe entered an opening in the outer wall of the humerus, and took an oblique course upwards, inwards and slightly backwards. After entering three and one-half inches the probe met with an obstruction, the nature of which could not be accurately determined; although it yielded to touch neither the sensation imparted by contact of the probe with either bone or metal.

To facilitate the exploration, the external wound was slightly enlarged, so that the little finger could easily be introduced into the aperture of the humerus, and guide the search with the probe. Assuming that the ball, which was fired at a distance of not more than ten feet, had not deviated in its course, it was evident that the shoulder joint had been perforated, and it seemed altogether probable that the ball had lodged in the subscapular fossa, in the soft parts between the scapula and chest-wall. This supposition was strengthened by the statement of the patient that the arm was raised when the shot was fired, and by the fact that pressure over every portion of the scapula elicited pain. At no particular point, however, could the projectile be felt, nor was any minute extent of acuter pain to be detected. Examination with the finger, probe and gentle movement of the arm failed to reveal the existence of shattering of the joint; loose pieces of bone could not be found.

Since the patient could not be conveniently treated at her residence, she was removed to a private apartment of the Good Samaritan Hospital, twelve hours after the receipt of the injury.

Recognizing a perforation of the shoulder-joint, excision was thought of and mentioned to the patient and her nearest relatives. After mature deliberation and consultation with Dr. W. W. Dawson, it was determined to trust in the expectant plan of treatment and to abstain from operative interference. The wound itself looked well; the small loss of blood excluded injury to blood-vessels of larger calibre, and the absence of pain and paretic manifestations in the extremity excluded the idea of injury to the nerves.

At the end of the second day the first manifestations of constitutional complications supervened. From the very beginning the febrile symptoms were of an alarming type. On the morning of the third day, the thermometer registered

103°. The patient was placed upon quinia, ten grains, every four to six hours. At the same time one ounce of brandy was administered every three hours. In consequence of this treatment the temperature was reduced to 101°, and the pulse sank to 110.

During the second and third days the local re-action supervened, with considerable swelling of the shoulder and arm, and some painfulness. On the fourth day the discharge had become purulent and was constantly evacuated through the aperture of entrance. The pus was of a healthy character, yellowish-green in color and of creamy consistence. Although the pus was freely discharged at all times, and the poultices which had been applied were covered with the secretions from the wound, the discharge was very much increased when the arm was rotated outwards. Believing, therefore, that the canal was bent if not entirely occluded when the arm was retained in its natural position by the side of the body, a large drainage tube was inserted into the passage made by the ball, and the arm was kept elevated by a pad placed under the elbow, according to the practice of Stromyer.

From the fourth to the eleventh day, the temperature varied from 100½° in the morning to 103° in the afternoon. The discharge was very copious and laudable. The wound of entrance was granulating in an encouraging manner. Although from the general condition of the patient, the gravity of her symptoms was fully recognized, the behavior of the wounded parts inspired hope in every one interested in the case.

On the eleventh day the character of the pus changed from its healthy color and consistence. It became of a darker tint, and quite thin and yielded an offensive odor. Nevertheless, there was no diminution in the quantity dischaged, and although pus cavities were detected anteriorily and posteriorily in the vicinity of the joint, it was evident that no difficulty was placed in the way of their free evacuation.

On the third day after the accident, the patient complained of pain in the *left* elbow, and an examination revealed a swelling over the tendon of the triceps. To the touch this was more painful than the part originally injured. An abscess developed at the site of this inflammation, and when opened on the fifth day, discharged about one ounce of rather healthy pus. It is impossible to account for this early development of a secondary abscess, except upon the supposition that in falling, after the accident, the patient struck this part. Had there been no septic condition established, this injury would scarcely have led to the development of an abscess, and that at so early a date.

On the morning of the thirteenth day the temperature was 102°; pulse 108. A semi-official investigation into the details of the accident caused an excitement of the circulation; the pulse bounded to 140 per minute, and the temperature rose to 103°. The hospital interne, Dr. Kelly, to whom I was indebted for many notes of the case, informed me that ten minutes after the departure of the official, a secondary hemorrhage supervened, which, although arrested by compression, exhausted the remaining strength of the patient so that she succumbed in the course of the following night.

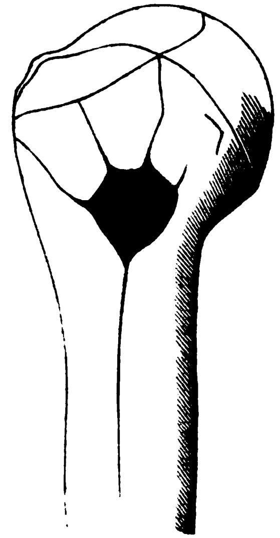

Fig. 1.

The post-mortem examination, made by Dr. Kebler, revealed a gunshot wound of the humerus and scapula. The ball entered the outer surface of the humerus a little below its anatomical neck. As will be seen from the accompanying illustration, the head of the bone was fissured in a number of directions, although loose fragments are not to be found. One fissure extends downwards to the middle of the shaft. Leaving the head of the bone near the centre of its articulating surface, after passing through the capsule of the joint, the ball struck the posterior edge of the glenoid cavity (fig. 2), where it was split into two portions as evenly as though the section had been made with a razor. One fragment then passed above, end the other below the spine of the scapula, where they were found surrounded by small quantities of pus, and separated from each other by a distance of nearly four inches. As the upper fragment of the ball passed the base of the acromial process, a small slice was removed, and this remained imbedded in the bone (fig. 2 and 3). The upper portion of the humerus was deprived of its periosteum. The shoulder-joint was free from pus, although the cartilaginous covering of humerus and scapula had become corroded in numerous spots.

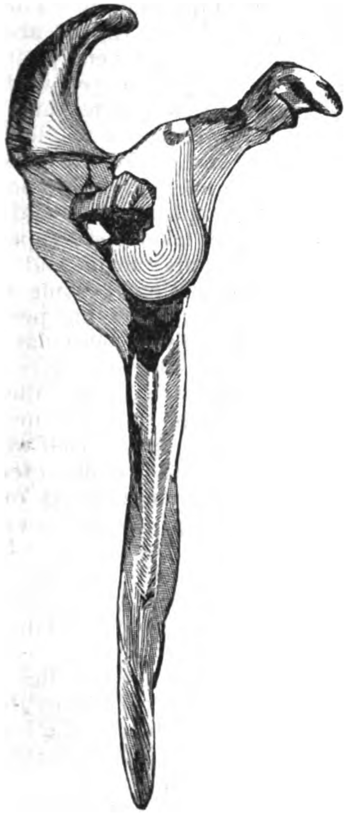

Fig. 2.

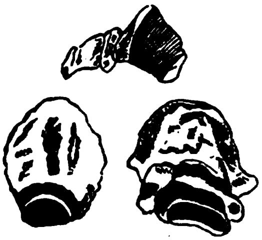

Fig. 3.

When the surgeon is called to a gunshot injury, the question at once is presented to him, "what course shall be pursued?" If operative interference is to be practiced, it must be done at once if shock be absent, or delayed only until the shock is recovered from. Whether excision of the joint involved, or amputation of the limb be contemplated, the sooner the operation is performed the better are the prospects for recovery. Primary operations, i. e., those that are performed within the first thirty-six hours of the occurrence, and before inflammatory complications supervene, yield the best results. Intermediary operations, a term used to designate operations performed during the continuance of the fever, yield the poorest chances for success, and, indeed, are not at present recommended by authorities in military surgery. If in former times the opening of a joint was deemed a positive indication for operative interference, at present there is no little disparity in the views entertained upon its propriety. Amputation in a case of this character described, is of course out of the question. With the integrity of the blood-vessels and nerves, in the absence of extensive shattering of the bones, amputation is positively contra-indicated. What was to be expected from excision? Statistics in our own and yet more recent wars, gathered from Gurlt, certainly demonstrate that in military practice better results have been obtained from excision than from the expectant plan of treatment. It is to be remembered, however, that in wars only few wounds are inflicted with small arms, and that the damage done by larger missiles will be greater in proportion to their size. When a joint has been shattered there can be no question as to the propriety of immediate excision. In wounds of the shoulder joint, made by small projectiles, excision is not indicated, unless the osseous structures entering into

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Note.—The illustrations are from drawings by Mr. Henry G. Thompson, of Hillsboro.

its formation are greatly implicated. "In the future," writes Gurlt, "primary *formal* excision will be indicated only in shattered and splintered conditions of the joints, and in cases in which a spontaneous recovery can not be hoped for at all, or only after a protracted siege."[1]

Had it been possible *intra vitam* to recognize the havoc made by the ball, and its subsequent splitting, recourse would have been had to an excision. With the post-mortem specimens before us, it appears probable that had an operation been practised the chances of the patient for recovery would have been slightly improved. Yet excision would not have discovered the whereabouts of the fragments of the ball, and would scarcely have prevented the development of the fatal secondary hemorrhage which resulted from a contusion of the supra-scapular artery. The rapid development of the latter after severe mental perturbation, well illustrates the disastrous consequences of great cardiac excitement to a weakened arterial wall.

WOUND OF THE INTERVENTRICULAR SEPTUM.

By C. F. Locke, M.D., Cincinnati.

J. M., æt. 30; previous history unkown. On the night of April 26, 1877 was stabbed in a fight and carried to city hospital of Dallas, Texas; was seen by a Dr. C. and found to have three cuts in the left chest, and one in the left hypochondriac region about four inches to the left of median line. This latter was stitched together by the Doctor, and the man sent to the hospital. I saw him the next day with a well marked general peritonitis, from which he died on the 29th. Post-mortem. Brain not examined. The only injuries discovered externally were the cuts above referred to. One incision extended from third rib to the fourth, just above and on a perpendicular line with the nipple, dividing the intercostal muscles, but not injuring the lungs. The second was a small wound externally, and striking the seventh rib did no further injury. The third entered the fifth intercostal space about two inches to the left of the median line of the sternum, penetrating through the pericardium and a full inch into the interventricular septum of the heart. The wound would have united by first intention with only a small circumscribed pericarditis in the immediate vicinity of the incision. The lungs were perfectly healthy. In the abdomen were abundant signs of general peritonitis, the peritoneum being of a yellowish hue, and the omentum well injected and shrivelled. On the lower line of the left hypochondrium, four inches from the median line, was an external incision of about two inches, vertically opening the abdominal cavity; the stitches taken were superficial, involving only the integument and fascia. A knuckle of jejunum had become twisted on itself and passed through the peritoneal opening and through the muscular tissues to the integument, and was quite firmly fastened with adhesive bands, the peritoneal portion of the knuckle markedly strictured and the knuckle itself well distended with gas. Pus had dissected itself through the sub-peritoneal fascia outward and backwards (the patient had been lying on his back) about five inches where it had formed a pus sac about as large as a goose egg. Elsewhere two knuckles of bowel were bound together by inflammatory adhesions.

The great interest in the case lies in two particular cuts. The first, that in the fifth intercostal space and entering the interventricular septum. That may be rather difficult to understand, but, when we remember that a small portion of the left ventricle is seen on the anterior surface of the heart, it will be easily understood that the septum could be turned more directly toward the anterior wall of the chest during the cystole on account of the oblique external layer of fibers twisting the heart from left to right. This must have been the condition of affairs when the knife entered the heart.

The second cut, that of the abdomen, showing typically the danger of leaving so much tissue unincluded in sutures of that region. Certainly nothing more than the peritoneum should be excluded from sutures, and often there will be less danger in all probability when all of the abdominal wall has been carefully cleaned and apposed by stitches, including its entire structure, and reinforced with adhesive plaster, bandages, etc.

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[1] Gurlt, p. 1,231.

WHAT AILED THE MAN?

SUBNORMAL TEMPERATURE WITHOUT APPARENT CAUSE.

By **Dr. Chas. Anderson**, U.S. Army.

Something more than a year ago I sent you some notes on a few cases of subnormal temperature. I now send one more:

Private Michael H., Co. I, Sixth U.S. Infantry, age, forty years. While on post one night, was suddenly attacked with vertigo, so severe that he had to take hold of a fence to keep from falling. The following morning he presented himself at the hospital, he complained of a headache at the back of the head; his skin was red and moist, pulse full and regular, rather slow, bowels constipated.

Ordered a cathartic to be given immediately, and two four-grain doses of quinia sulphas to be given during afternoon and evening. At half-past four that afternoon, I was called to see him. He was vomiting every few minutes, skin cold and wet, face death pale and pinched in expression, pulse one hundred and twenty per minute and threadlike, respiration averaged nearly thirty, temperature ninety-three and three-fifths Fahrenheit.

He told me, with some composure, that he was about to die. I did not tell him so, but I thought he was about right. Ordered that he be given three-grain doses of bismuth sub-nitrate every half hour, as long as vomiting continued.

At seven o'clock that evening, the vomiting had ceased, and he was resting well; pulse eighty, respiration thirteen, temperature ninety-three and four-fifths Fahr.

The next morning at Sick Call, much to my surprise, he walked into the hospital, and said he was all right except being very weak. In answer to questions he stated that his lips and the ring and little fingers of the right hand were a little numb. Temperature ninety-six and four-fifths Fahrenheit. The two following mornings his temperature was ninety-four and four-fifths Fahrenheit.

Being perfectly well otherwise, he was returned to duty.

Some months later I took his temperature several times, and always found it about ninety-eight and four-fifths Fahr.

What was the matter with the man, a slight attack of apoplexy or a bad case of constipation?

Camp on Snake River, Wyoming,
December 1, 1881.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of December 5th, 1881.

THAD. A. REAMY, M.D., *Pres't in Chair*. W. H. WENNING, M.D., *Secretary*.

Gunshot Injury of the Shoulder Joint.

Dr. Ransohoff reported a highly interesting case of accidental injury to the shoulder joint from a pistol ball, at the same time presenting the morbid specimen.

(This article will be found fully illustrated on page 1 of this issue.)

Dr. Ravogli, in opening the discussion, remarked that the life of a patient injured in this manner depends on the treatment instituted at the first visit. If it is certain that the joint is entered by the ball, the head of the bone injured and the pieces of bone discernible the operation of exsection must be performed at once. A secondary operation is always followed by a bad result. During the war in 1870, when Rome became the capital of Italy, many wounded Italian soldiers were brought into the hospital with which the speaker was then connected. He remembered one case where a soldier received a ball which entered the knee and struck the condyles of the femur. A primary operation was not performed, suppuration set in, the inflammatory condition passed up the thigh, and though the leg was amputated the patient died. In the case reported by Dr. Ransohoff there was no indication for exsection at the first visit. No pieces of bone were to be detected in the glenoid cavity and consequently there was no sign that necessitated the operation.

Dr. Heighway said if the reporter of this case had resorted to an operation when he first saw the case he would have been severely censured. If he could have known the conditions as found post mortem he would perhaps have had a successful result. The patient might have retained a useful arm, but under the circumstances no other course was to be adopted from that which he practiced. When a joint is injured the rule is to exsect or amputate, as the nature of the case requires. The speaker, when in the army, saw a number of cases that refused to submit to an operation when it was deemed necessary, and these cases almost always proved fatal.

Dr. Illowy said he would not question the surgical treatment of the case, but thought that removal to the hospital was inopportune when the patient was in a fair condition. The fever chart as presented by the essayist shows that the patient died of septic fever. Now this is to be feared when a patient is removed to a hospital—there is great danger of hospitalism. In the case of paupers it is different, but where a patient can be treated at home attended by intelligent nurses removal is not advisable. Moreover the shock attending the change is a dangerous element.

Dr. Reamy thought that the treatment in the case required no justification. If the character of the injury had been previously known the surgeon would probably have removed the head of the bone; but as examination showed no fragments of bone, as there was no impairment of motion to the arm, and as the patient showed no signs of shock—which is generally well pronounced in severe injuries of this nature—the absence of any positive proof of the extent of the injury would render the practice doubtful. Furthermore this question was the subject of due and serious discussion. When fever set in the operation was still less called for. While the speaker would admit that this fever in its course showed evidence of septicæmia, he could not concur with the statement of the gentleman that called attention to this fact that this condition was induced by hospitalism. This danger is feared in surgical injuries at all times under any circumstances, but in this instance was not due to the atmosphere in the hospital. The Good Samaritan has been remarkably free from this, especially during the past year. The objection to removal of a patient is sound, provided the character of the wound is such as to show that physical exercise would be damaging to the patient, but in the case reported such an objection was not tenable. Consequently the only question that remains is exposure, which was not the case here. Besides this the length of time between that of removal of the patient and onset of the fever was extremely short. In the speaker's mind it was extremely doubtful if the result would have been different with the exsection of the head of the femur and of the scapula.

Dr. Ransohoff, in reply to the criticism made by one of the speaker's, said that although the lady was in comfortable circumstances, she and her husband only lodged at the house in which they lived, there being no kitchen connected with the establishment. Secondly, the husband was very anxious to keep the knowledge from any one else. The patient when removed was in a good condition and her apartments in the hospital were also private, consequently there could be no danger of hospitalism. The suppuration which took place is bound to be established and the fever is also a necessary consequence—generally it manifests itself within thirty-six hours. A further proof that removal is not injurious is shown in military practice. Soldiers when wounded are not left on the field, nor even brought to a neighboring farmhouse, but removed to some hospital where all conveniences are at hand. One important point of difference between gunshot wounds in military and civil surgery consists in the size of the ball used. When the ball is heavy, as in the army, it passes right through the shoulder; the point of entrance and exit is so well marked that the finger can be readily introduced, whereby the extent of the injury is more easily determined. In the case reported the opening was smaller, so that it had to be enlarged to permit the introduction of the finger and there was nothing except the direction of the probe to show what course the ball had taken.

CINCINNATI MEDICAL SOCIETY.

Meeting of December 15, 1881.

GUSTAV BRÜHL, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

Death from Opium.

Dr. L. C. Carr reported the following case:

He was called to see an Italian woman, 23 years of age, an opium eater accustomed to use a half drachm of morphine daily. Previous to her marriage she had been a common prostitute, and during her married life constantly quarrelled with her husbadd, who is a lunatic and was at one time confined in the asylum.

The Doctor found this woman complaining of great pain in the stomach, and vomiting about every twenty minutes. She had taken her usual allowance of morphine during the day, but showed no signs of narcotism, no coma, no contraction of the pupils. Her pulse was small, rapid and weak. As her bowels were constipated, a purgative was given. After this had operated she seemed somewhat relieved and went to sleep. During the night the vomiting was renewed, with pain in the stomach and slight muscular spasms.

At 9 o'clock next morning she was in a state of collapse; temperature 97°; pupils dilated; surface clammy; lips blue and extremities cold. Death soon followed.

He believed that this patient died from the effects of some irritant poison, but whether taken intentionally or by accident, or administered by others, he could not determine.

He reported the case to ask the Society if it was his duty to sign the certificate of death.

The character of the woman, the manner of her death, and the want of harmony in her family relations, caused him to hesitate. Some of her friends and relatives wanted the certificate signed and the matter hushed up, while others were desirous to have an investigation.

After a general expression of opinion by the members, it was agreed that it would be advisable to hand the case over to the Coroner.

Dr. C. P. Judkins reported a fatal case of

Typho-malarial Fever.

The patient, a married man, 25 years of age, complained of pain around the umbilicus, but was not confined to the house. After a time the pain abated somewhat, but diarrhœa supervened with some but not much nausea. The stools varied in character; sometimes they were large and soft, but never watery; and at other times small and dysenteric in appearance. A cholagogue catharatic was given, after which he improved and returned to business.

A week afterwards the pain around the navel returned with the diarrhœa. He had three or four stools a day similar in character to the former.

The pulse ranged from 95 to 103, and the temperature stood at 100° during the first two or three days of this second attack. After five or six days the diarrhœa was checked, and on the fifth day before death he had a natural stool. He took three grains of quinine every three hours with stimulants, and beef tea freely.

On the thirteenth day, when he attempted to show his tongue, it caught on the teeth, and required a second effort to protrude it.

The tongue was now red and dry, pulse 122, temperature 103°, and the body covered with profuse perspiration. These were the first decided typhoid symptoms that showed themselves.

Consultation was now called, and by the advice of consulting physician the quinine was discontinued and morphine given in the form of suppositories, one-fourth of a grain every three hours. This was done upon the theory that in cases of shock or collapse, where the surface of the body is bathed in cold, clammy perspiration, the mucous coat of the stomach is supposed to be in a condition that will not tolerate stimulants. The patient went on from bad to worse, and died at the close of the fourteenth day.

Dr. Illowy remarked that he could easily see why the stomach is affected in a patient suffering from shock, as the result of sudden injury, such as would happen in a railroad accident and the like. In such cases the violent impression upon the nervous system is reflected upon the stomach. In this case the going down was gradual and no state of the stomach, which would contra-indicate the use of stimulants, has been shown.

Dr. Carson said: This case of Dr. Judkins calls to mind the opium treatment of Dr. Graves in fevers—small doses of laudanum and tartar emetic. Leaving out of view the tartar emetic, we ought not to forget the great advantage to be derived from the stimulant effect of small doses of opium in the treatment of these cases of exhaustion from fevers and other diseases. The degree of prostration in this disease, in a proportion of persons, is very great. I have seen some cases in which no reaction occurred; the system would not respond to stimulants of any kind. In one case extreme depression came on; there was no septic condition; no diarrhœa; no drain at all, except from inability to retain food on account of excessive irritability of the stomach.

When I was a medical student, I frequently saw cases of what was then called bilious fever, in which irritability of the stomach was a prominent symptom, with headache and pain in the back. Many of these cases were relieved by bleeding.

I would place many of these cases of malarial fever in the same class with the old so-called bilious fever. I have a case now, in this neighborhood, of a child six years old in which irritability of the stomach is a prominent symptom. I recently saw a man who had gone to the country in July, and after remaining some time came home and was taken sick. What the nature of his first sickness was I cannot say, as he was in the hands of other physicians before I saw him. When I saw him he had all the symptoms of acute gastritis, though I thought this but a complication of malarial fever. Believing the case to be essentially a fever, yet in the absence of definite data, from ignorance of the early course of it, I was obliged to certify the cause of death to be acute gastritis.

I would like to hear if members of the Society have observed the prevalence, with these irregular forms of fever, of what the French term, "grippe," i. e., cold in the head or other catarrhal symptoms.

Dr. C. P. Judkins remarked that he had thought very seriously over this case, and if called to treat a similar one, he would not allow the patient to go out so soon; would not give quinine, nor resort to stimulants so early, but would treat the symptoms as they presented themselves.

Selections.

MEDICINE.

The Nature of Voluntary Muscular Contractions.—Prof. Christian Lōven, in a paper read at the Scandinavian Naturalists' Congress, 1880, and published in the *Nordiski Med. Archiv*, xiii, 1, No. 5, 1881, after having noticed the fact that the very numerous investigations on the functions and properties of nerves and muscles have yet left only too much to be desired in the way of explanation of the most common phenomena manifested in the living healthy organism, and especially of those relative to voluntary tonic contractions, reviewed the various opinions on this subject, and distinguished three, essentially differing from each other, viz.:

1. That which holds that these contractions are truly continuous, *i.e.*, engendered by a continuous excitation of the nervous centres.

2. The opinion admitting that the central apparatus, and, first of all, those of the spinal cord, can only transmit their excitation to the muscles by separate discharges, following in this a definite rhythm for each species of animal (in many, according to Helmholtz, this would be 18-20 per second, in the frog 16-18 per second.)

3. And last, that of M. Brücke, holding that the continuity of the tonic contraction is due to the fact that the discharges are not perfectly isochronous in all the nerve fibres supplying a muscle, but resemble rather "volley firing."

Decisive proofs of all these views are lacking. The first is based upon the generally admitted fact, that voluntary contraction, as well as strychnine tetanus, never produces "secondary" or induced tetanus in the paw of the galvanoscopic frog, the nerve of which has been applied to the contracted muscle. The second, which may be considered the predominant one at the present time, supports itself by the analogy with artificial tetanus, and especially by the muscular sound. The third view, finally, has scarcely any other thing in its favor than the desire to show the difficulty presented by the absence of induced tetanus.

Thanks to the extreme sensitiveness of a capillary electrometer the author was able to show in 1879 (*Nordiskt Med. Archiv*, xi, No. 14) that the voluntary tonic contractions in the toad, also strychnine tetanus in that animal as well as in the frog, are accompanied with well-marked and regular rhythmic electric variations. But the number of these variations being only about eight per second (instead of 16-18 according to the reigning opinion), it becomes very difficult to explain to one's self how in voluntary contractions and strychnine tetanus muscular jerks so widely separated in point of time could so fuse themselves as to form an apparently continuous contraction, especially when we consider that ordinarily as many as 20 excitations, and even more per second, are needed to cause a perfect electric tetanus.

The author thinks that the simplest method of obtaining a solution of this difficulty would be to admit that the physiological excitations sent to the muscles from the motor centres differ in some essential property from those we give to the motor nerves in laboratory experiments, and notably differ in the fact that they are slower. In fact, these oscillations provoked in the capillary electrometer by voluntary and strychnic contractions appeared to M. Löven to possess this property, though naturally the difficulty of reaching perfect certainty in this regard ought to be very great. Furthermore, amongst the whole of the facts obtained by experimental excitation of the motor nerves, we find some that show, as far as we can judge by the form of the muscular curve, that the character, or, if we choose, the form of the motor excitations is not always the same. It suffices to recall the slow contractions that appear when a part of the nerve by which the excitation should pass, if chilled, and also the contractions which, in certain cases, are provoked by the opening of a continuous current.

If the physiological excitations are distinguished by their slowness, the inability of a voluntary contraction to produce an induced contraction ought not to be so difficult to comprehend, seeing that it is necessary, in order to excite the nerve of the galvanoscopic paw, that the electric variations in the "inductor" muscle should have not only a sufficient intensity but a certain celerity; and therefore the fusion of these slow contractions into a continuous tetanus ought not to appear strange, even if the number of the muscular jerks per second does not exceed the eight oscillations above mentioned.

The study, by the aid of the electrometer, of the electric variations that accompany voluntary and strychnic contractions reveals still other peculiarities that appear to M. Löven to be of capital importance, especially for the explanation of certain pathological conditions of the motor functions. These oscillations vary, not only in their rhythm, and that in direct proportion to the energy of the contractions, but also, as the author thinks, very notably in quickness, being sometimes slower, sometimes faster.

M. Löven thinks that these differences can hardly have any other cause than a regulator action already exerted in the nerve centres. It would evidently be very difficult and altogether unprofitable, in the present state of our knowledge, to try to formulate hypotheses in regard to the organs that may exercise this function, or as to their probable mode of action; but the cases where this regulating influence is lacking are very easily recognized.

One of these cases presents special points of interest, inasmuch as it still belongs to the physiological domain; it is the tremor that is seen in strongly contracted muscles when we seek to overcome a resistance by the greatest possible effort. In order to see if the oscillations of such a tremor follow any constant rhythm, Löven registered graphically by a very simple procedure the oscillations that occur in the muscles of the arm when an attempt is made to flex a very resistent bar of steel, and he found that in a large number of healthy persons the rhythm of these oscillations was very regular at 12-13 per second.

He thinks that we may admit, without too much assumption, that these oscillations are, in fact, nothing else than the expression of the simple muscular contractions, which in an excessive effort of the motor centres cannot be sufficiently blended to produce a perfect continuous tetanus.

At the end of his paper M. Löven called attention to various applications that could be made of these views in the explanation of certain characteristic phenomena of some pathological conditions of the motor system. —*Journal of Nervous and Mental Disease*,

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THE VARIOUS CONDITIONS UNDER WHICH ALBUMEN IS FOUND IN THE URINE.—Urine becomes albuminous: 1. In croup or laryngeal diphtheria; in ascites, or far-advanced abdominal dropsies; in that emphysema in which dyspnœa takes place; in pulmonary phthisis, especially if complicated with pneumonia, and accompanied by much difficulty in the respiration; in the child-bearing state, after the abdominal circulation is interfered with; that is, in those diseases in which a notable diminution of combustion (oxydation) follows a difficult respiration.

2. In cyanosis, whatever its cause, and in heart troubles carried to that extent that the patients are in a state of partial asphyxia; hence in cases in which an obstacle to the circulation, or a vicious conformation of the heart, prevents hæmatosis from being as complete and as rapid as under ordinary circumstances.

3. In eclampsia.

4. In cholera, a disease which diminishes considerably the oxydation of the blood.

5. In idiopathic or traumatic lesion of nerve-centers, with lowering of temperature, and a notable diminution of combustion.

6. In diabetes, a disease in which, often enough, some primitive and analogous lesion seems to have existed; in which, besides, a great

amount of sugar in the blood impedes the combustion of albuminous matter and hæmatosis; in which, finally, as Bouchardat observed, the temperature is lowered by one or two degrees in deeply diseased subjects.

7. In that sort of deficiency of nervous fluid which characterizes the state called curvature of the spine, which is most likely accompanied by a considerable diminution of calorification.

8. In the natural or artificial suppression of cutaneous perspiration, a suppression which sensibly diminishes the absorbing capacity of blood for oxygen, which may bring on a sort of semi-asphyxia, at any rate, a considerable lowering of temperature, which necessarily produces a marked diminution in the latent combustion of the tissues.

Thus urine becomes albuminous from the use of impermeable artificial coverings to the skin; and the same phenomena is not rare in those diseases, as measles, scarlet fever and small-pox, in which the functions of the skin are liable to be greatly interfered with.

From an analogous cause, urine is albuminous as a sequel of an intense cooling of the surface of the body from cold.

Lastly, Bright's disease, in which the urine is always found to be albuminous, is precisely referred to many of the causes just enumerated: heart disease; changes in the liver; a retardation or suspension of circulation in the abdomen, whatever the cause; a sudden impression of intense cold; large imbibition of alcoholics; pulmonary phthisis with dyspnœa, etc.

As a general rule, the urine of common quadrupeds, and that of birds, does not contain albumen. In reptiles, on the contrary, in batrachia, in frogs, at least, so remarkable on account of their low animal heat, some albumen is always passed with the urine (Dumas).

It is not quite demonstrated, yet very probable, that urine becomes albuminous under the influence of those agents which, according to one, protect to quite an extent from latent combustion. I have but few facts to substantiate that view.

Urine becomes albuminous in protracted anæsthesia, and in slow poisoning by cyanhydric acid; habitual drunkenness predisposes to albuminuria to quite an extent. This state suddenly appears sometimes in syphilitic patients under a course of mercury. . . . . The albumen discharged represents so much organic matter which has escaped a transformation into urea and uric acid, from a lack of activity in the oxydation of the blood. Whatever the true theory, it remains a constant fact that *any important alteration in hæmatosis gives rise to albuminuria.*

The foregoing were condensed from a communication made in 1851 to the Académie des Sciences, by myself. The following are facts generally ascertained since:

The fœtus of quadrupeds resembles cold-blooded animals as to its hæmatosis, and its urine is albuminous, and remarkable for a total absence of urea.

When death is approaching, the respiratory movements and cardiac contractions weaken to quite an extent; the lungs become congested; in a word, hæmatosis is considerably diminished, and, as observations prove, this state is liable to cause albuminuria. . . . . Septicæmia, hospital gangrene, phlegmonous erysipelas, yellow fever, typhoid, and typhus fever, which are all remarkable for a diminution of hæmatosis, are also remarkable for the frequency of albuminous urine. This condition of the urine is, indeed, one of the most constant symptoms of typhoid fever, and, according to Finger's observation, the renal tissue may remain intact.

From the same cause, miliary sweat, in which hæmatosis is so diminished and the blood so thin, is one of the diseases accompanied by albuminuria.

Jaundice often depends on a rapid diminution of hæmatosis, and it is sometimes accompanied by albuminous urine.

Chlorosis, a type of pathological anæmia, diminishes notably the number of red corpuscles, and often has albuminuria for one of its symptoms.

Gout; red gravel; rheumatism; sicknesses in which hæmatosis is frequently diminished, are often accompanied by albuminuria.

Let the alteration result from tuberculosis, syphilis, cancer, glanders, malaria, scrofula, or other causes, all cachexias have this in common, that they diminish the formation of blood corpuscles, and diminish in a marked degree respiratory combustion. All of them diminish the tenacity of tissues, and end by allowing an escape of albumen with the urine.

In meningitis, the nature and the seat of the disease; the somnolence, coma, nausea, vomiting, convulsions; all seem to indicate marked disturbance in hæmatosis. (See Book III. of my works on the Reformation of Medical Sciences, theory of purgatives and emetics). Indeed, according to Rosenstein, albumen appears in the urine from the beginning of the sickness, in adults as well as in children.

Influence of cathartics and emetics. According to my theory on the subject, quite a number of cathartics and emetics produce this action by diminishing more or less rapidly the formation of blood. Hence it would be quite natural for drastic cathartics to give rise to albuminuria; and this has often been observed. Nitrate of potassium itself is liable to render the urine albuminous, whether it is taken in repeated large doses, or in small doses for a long time.

Influence of anæsthetics. According to the same theory, anæsthetics protect from putrefaction after death, and retard blood formation during life. And, in accordance with what was already known of chloroform and several ethers, it is now ascertained that chloral hydrate is antiputrid after death; that it retards greatly vital combustion; that in repeated large doses it causes nausea and vomiting; that it brings on a relaxation of the tissues; that long taken internally, it may bring on albuminuria, anasarca, and a sort of poisoning resembling that caused by ergot. (Smith, *Boston Medical and Surgical Journal*).

Coffee is antiseptic, sedative, not very energetic; and according to my views, may, when taken in large doses, give a darker color to the blood, diminish the exhalation of carbon dioxide and the production of urea; it may act as a diuretic, and let albumen escape with the urine. The same is true of fuchsine, especially arsenical fuchsine; it is antiseptic, retards hæmatosis, and may be accompanied by albuminuria.

Metallic compounds. Those salts of the metals proper which do not absorb oxygen are generally antiseptic after death, and poisonous during life. In my view, the subsequent death, and the symptoms which precede it, manifest in various degrees an arrest of hæmatosis. All of them may doubtless cause albuminuria; at least, the number of them in which the fact has been ascertained has considerably increased since I first brought out my theory. Then my only observations referred to mercurials, but now the following are said to act thus: the soluble compounds of antimony and lead (Ollivier); some silver compounds (Lionville); salts of cadmium; nitrate of uranium; various copper salts; arsenical compounds; gold and palladium chlorides.

Moral influences. It is a well-known fact that sad moral affections may diminish hæmatosis to quite an extent. It is also a well-known fact that these may cause diuresis, intestinal evacuations, vomiting, albuminuria (Prout, etc.).

Influence of water taken internally. Upon injecting a certain amount of water into the veins, the blood becomes very thin, there is a marked decrease in hæmatosis, with a sedative effect very marked. As in the preceding cases, the marked arrest of function is accompanied by an escape of albumen into the urine (Magendie). These results have been verified by Hermann.

Influence of oxydizing agents—that is, agents which are known to diminish the quantity of free oxygen, and to rarefy the atmosphere. In phosphorus poisoning, an energetic oxydizing agent, the quantity of oxygen in the blood is markedly diminished. This diminution is otherwise manifested by a marked change in color, by a striking increase of fat, enlargement of the liver and vomiting. What becomes of the albumen of the blood under such circumstances? It passes away with the urine (C. Schultzen).

According to the experiments of Cl. Bernard, *carbon protoxide gas* forms with hæmoglobine a kind of compound more intimate than that resulting from oxygen, so that when it is respired, it has a tendency to displace this gas from the blood globules, and consequently diminish hæmatosis; the temperature is lowered, the amount of urea diminished, while that of uric acid is increased (Ritter). This also justifies my theory, for carbon protoxyde is antiseptic and preserves dead bodies, its inspiration also causes albuminuria. At high altitudes, a rarefaction of the air ought to diminish hæmatosis. Indeed, the blood turns darker, the liver often becomes congested, vomiting, as above described, becomes manifest if the transition is sudden, and urea is diminshed in the urine (Bert). Also, albuminuria is much more frequent on high mountains than at the level of the sea (Jourdanet).

The preceding facts demonstrate in the highest degree the exactness of our theory, and their publication, we hope, will stimulate also to greater progress in that line.—*Revue Medical,* July 30, 1881—Ed. Robin, *Chicago Med. Journ.*

THE GANGLIA OF THE URINARY PASSAGES OF MAN AND CERTAIN ANIMALS.—The following are the conclusions of a recent memoir by Prof. Rudolph Maier, of Freiburg, published in *Virchow's Archiv*, lxxxv., 1 Hft., July, 1881.

1. Upon all portions of the walls of the urinary passages external to the kidneys, in man and certain other animals, are ganglia giving out nerve branches, and in the mucous as well as in the muscular layer.

2. In the mucous membrane they are situated either in its whole thickness or preferably or exclusively in that portion of it adjoining the muscular coats.

3. In the muscular coat itself the nerves from larger anastomoses between the coarser muscle bundles and the smaller ones between the finer bundles of this greater layer. Both contain ganglia, the first the greater number.

4. The nervous plexuses in the muscular and mucous coats are in continuous connection with each other.

5. The nerve plexuses do not form a continuous closed network over the vessels, but more commonly form, by frequent anastomoses, connections between the more superficial and deeper layers.

6. The ganglia are situated:

a. On the nerve branches, and so arranged that that the perineurium passes over them only on one side, while on the other the cell groups are margined directly by nerve fibres.

b. They lie, not closely associated with the nerve fibre, in rounded or spindle-shaped masses, but in larger masses and more like a bunch of grapes on a stem, surrounded by connective tissue.

c. The ganglia lie in the middle of a nerve branch, and push the fibres apart from each other.

d. They are situated at the points of bifurcation of the nerve branches.

e. The ganglia lie embedded in the course of a single nerve fibre.

7. The ganglion cells, where they occur in large numbers together, are enclosed in a meshwork of perineurium.

8. Where they occur singly they are altogether or partly surrounded by a simple sheath of perineurium, or are naked; they are enclosed in neurilemma when they appear within nerve fibres.

9. Part of the ganglion cells appear to be apolar, others are unipolar, and some again bipolar.

10. The processes divide themselves into true, that is, actual continuity of the protoplasm into a nerve fibre, and false, or extensions of the ganglionic sheath into the connective-tissue sheath of the nerves.

11. The ganglion-bearing nerve plexuses consist, for the most part, of pale fibres.—*Journal of Nervous and Mental Diseases.*

THE TREATMENT OF TYPHOID FEVER BY SALICYLATE OF SODA.—M. Caussidou made a communication to the French Association for the Advancement of Science at the Congress of Algiers, which was based on thirty-two cases of typhoid fever treated by salicylate of soda, and in which the rise of the temperature and the influence of this drug on the febrile process had been registered with the greatest care, as attested by numerous tracings shown by the writer. M. Caussidou arrived at the conclusion, in opposition to the facts observed in several wards of the Paris hospitals, that salicylated medication gives larger, more certain, and more permanent effects than refrigeration. M. Caussidou has even been in doubt if, by administering salicylate of soda from the outset of typhoid fever, it would not be possible to limit the duration of the disease to the first week (?), and if, at least, it would not be possible to obtain a number of cases belonging to the abortive form. Nevertheless, M. Caussidou does not conceal the dangers of salicylate medication. Like other observers, he has noted dyspnœa, precordial trouble, and exhaustion in patients where the salicylate of soda brought on a too sudden apyrexia. To avoid these objectionable results, he proposes to administer salicylate of soda in fractional doses of one gramme given every two hours, and to stop as soon as the temperature falls below 38° Cent. (100·4° Fahr.). In a complicated case of erysipelas, the salicylic medication was powerless to produce a febrile recrudescence brought on by this complication. M. Hérard declared that he had nothing but commendation for the use of antiseptics, such as carbolic and salicylic acids, in the treatment of febrile diseases.—*London Medical Record*, July 15th, 1881.

GANGRENOUS VARICELLA AND VACCINIA.—Mr. Jonathan Hutchinson has described recently a form of chicken-pox that takes on gangrene, is accompanied by suppurative iritis, and in some cases has proved fatal. He regards the disease called "burnt holes" in Ireland, also the "eating hive," as this gangrenous type of varicella. It usually occurs in healthy children. Mr. H. argues that vaccinia also has its gangrenous type, even in healthy infants, and he gives the history of a case—it died on the twenty-first day—which he believes belonged to that type. Mr. W. Stokes, of Dublin, has also described a similar case, in which for a time the danger was great, but eventually it recovered.—*Proceedings of the Medical Society of the County of Kings.*

TREATMENT OF SCIATICA BY HYPODERMIC INJECTIONS OF NITRATE OF SILVER.—Dr. Greslon reports (*La France Médicale*, September 29, 1881) the radical cure of a case of sciatica, which had resisted all ordinary methods of treatment, by hypodermic injections of the nitrate of silver. The patient, a lady of fifty-three years, was of a gouty and rheumatic diathesis. She had recently suffered from several attacks of acute articular rheumatism. Her metacarpo-phalangeal articulations presented the characteristic deformities of arthritis deformans. In March, 1878, the patient was attacked by sciatica in the left thigh and leg. The most severe pain was experienced in the calf at the sacro-sciatic foramen. After unsuccessfully treating the case for twelve days with sinapisms, vesicatories, and anodynes, Dr. G. injected five drops of a twenty-five per cent solution of nitrate of silver into the deeper tissues of the calf, at the most painful part. The injection was attended by violent pain, and followed by the formation of an abscess, which was opened at the end of a week. A few days later the neuralgic pains had completely ceased in the leg. Eight drops of the same solution were then injected over the sacro-sciatic foramen. No abscess ensued, but an inflammatory exudation occurred, and discharged, six days after the puncture, some sero-sanguinolent matter. A week later all pain had disappeared from the limb. The patient has had no relapse of the sciatica, although three years have elapsed since the attack in question.—*N. Y. Medical Record.*

DIABETES INSIPIDUS TREATED BY ELECTRICITY.—Mr. C. P. B. Clubbe reports the case of a woman, aged thirty-five, who was suffering from diuresis, and in whom iron, nux vomica, valerian, and bromide of potassium had been used without any marked effect. Faradism over the region of the kidneys was then employed every day for about twenty minutes for twenty weeks. There was a decided improvement up to the seventh week, when the daily average of fluid passed varied very slightly, improvement, however, being constant. Treatment was then stopped, and six months afterwards she was no worse, though still passing from six to seven pints daily.—*Lancet*, October 29th, 1881.

THE INTERNAL USE OF THE PERCHLORIDE OF IRON AGAINST HEMORRHAGES.—Last February, in a discussion concerning ferruginous medication in the Paris Hospital Society, M. Lereboullet objected to the untimely use of perchloride of iron internally against all sorts of hemorrhages. He criticised the assertions of those physicians, who using and abusing this method, attribute to it unreservedly a certain hæmostatic power. Having encountered sundry objectors, among whom was one who declared himself a champion of the perchloride of iron administered as a hæmostatic by the mouth, he undertook new researches on this question, and induced M. Guestre to make it the subject of his inaugural thesis. He has not been able to discover any observation absolutely proving the arrest of hemorrhage by ferric chloride administered internally. M. Noël Gueneau de Mussy says it seems that perchloride of iron has, under these circumstences, a hæmostatic action; and the majority of competent authors are not more affirmative that he. In a memoir on this subject, M. Cervello, of Palermo, has demonstrated, by experiments on animals, that the perchloride of iron is absorbed by the stomach in a state of ferric salt—that is to say, of protochloride—and that it remains dissolved in the blood by the aid of albuminoid substances; that, moreover, the physiological action produced by its absorption consists in slackening the beating of the heart, and diminution of the amplitude of the pulse. He has ascertained the same results with the administration of ferric chloride. M. Guestre has experimented upon himself by taking a certain dose of perchloride, and making a series of sphygmographic tracings of his radial pulse before and after taking the medicine. Then, having taken at the outset, at intervals of an hour, two doses of fifty centigrammes (7½ grains) of perchloride of iron, and then one-third of a gramme (5 grains), he was able to ascertain beyond doubt the diminution of the amplitudes and of the dicrotism of his pulsations, and, at the same time, the slackening of the action of the heart; he swallowed subsequently, in the same way, another salt of iron, the ferrico-potassic tartrate, and was enabled to ascertain, at the end of an hour, the slackening of the pulsations; an hour afterwards, the pulse became thready, but rather rapid. From all these experiences, it would appear that analogous results are obtained with all the salts of iron, and that the hæmostatic action attributed to perchloride of iron belongs to all the ferruginous salts. Moreover, clinical results show that, in purpura in particular, a larger number of cures are recorded without the employment of perchloride of iron than with the administration of this medicine. And when one remembers the excellent effects of ipecacuanha against hæmoptysis, of ergotine in hemorrhages, and, on the contrary, the often injurious effects of perchloride in gastrorrhagia, is it not logical to protest against the abusive employment of this substance as a hæmostatic, at least through the stomach?

M. Vigier, in the course of the subsequent discussion, observed that, chemically, perchloride of iron has, for a long time, been prepared by the action of hydrochloric acid on hæmatite; and, under these circumstances, the solution is always acid, and the more so because, in the course of time, a yellow oxychloride is deposited in the bottle in which it is preserved, and a large amount of the acid thus becomes free; it is, under these conditions, an energetic caustic. It may be obtained pure and scrupulously neutral by means of a current of chlorine in a solution of protochloride of iron. The perchloride forms with the blood a chloro-albuminate of iron, which tends to disaggregation, so that the plug obtained by these means in the arterial wound is of doubtful efficacy. In the stomach, it unites with albuminoid substances to form a magma which, when attacked by the gastric acids, yields the persalt of iron in the blood in a state of protosalt; after the perchloride has been swallowed, only the effects of the protochloride are observed.

M. Dujardin-Beaumetz agreed that, when taken internally, perchloride of iron cannot pass into the blood as such, being acid, but is transformed into protochloride; but it renders valuable services against hæmorrhages with anæmia, such as purpuric hæmorrhage.

Dr. Constantine Paul believes in the efficacy of perchloride of iron as being indisputable in hæmorrhagic chlorosis. In other cases, its depressing action on the pulse can but be useful for the purpose of hæmostasis.

In the summing up of the discussion, M. Lereboullet observed that the main conclusion to be derived from his observation is not that perchloride of iron is useless, but that it is not a specific against hæmorrhages, which should be employed to the exclusion of the other salts of iron.—*Brit. Medical Journal.*

A NEW THEORY OF URÆMIA.—MM. Feltz and Ritter have recently announced that the real cause of uræmia is a change in the proportional quantity of potassa in the blood. The amount of the potassic salts in the blood, as in the urine, varies with the quantity and quality of the food. A special alimentation, in which the sodic salts preponderate, long continued, has the same effect on the quantity of the salts of potassium, as a poor and insufficient diet. The quantity of the salts of potassium contained in the blood influences in a certain degree the amount of urea necessary to produce grave or fatal results. Suppression of the renal function by the simultaneous ligation of the ureters determines in the blood and in the serum a sensible increase in the potassic salts except the supplementary gastro-intestinal excretion. In this respect the alkaline salts obey the same law as urea and extractive matters, which increase in the blood under the same conditions. The most serious results of experimental uræmia are not connected with the retention and accumulation in the blood of the urea or extractive matters of the urine, but, on the contrary, are produced by the injection of fresh, normal urine, or the equivalent solutions of the salts of potassium in distilled water. We think it must be admitted that the real agents of the toxæmia are the salts of potassium which accumulate in the blood.—*Bull Gen. de Therap.*, September 15th, 1881.—*Medical Progress.*

A CASE OF MANIA AFTER SCARLATINA.—Cases of psychical disturbance as a consequence of scarlatina are extremely rare, two cases, as far as we know, being all that have been as yet reported. The case reported by Dr. J. Robuske, in which a cure was ultimately affected, is therefore, deserving of mention. The patient, a man aged twenty-one years, after a mild attack of scarlatina, in which there was delirum, was affected with hallucinations and subjective sensations; he could not be kept in bed, moving restlessly up and down his room, and tearing his clothes and bed coverings. This condition lasted about a week, when, under the action of chloral and morphia, he gradually improved; was willing to remain in bed and take nourishment. A decided desquamation of cuticle occurred at about this time, accompanied by violent neuralgia of the lower extremities; after about two weeks illness in all, he recovered completely.—*Deutche Med. Woch.*, Oct. 8, 1881.

A NEW SYMPTOM OF DISTURBANCE OF THE BILIARY FUNCTION.—From a long and valuable article on this subject, MM. Lepine and Guerin draw the following conclusions: 1. Is it possible in an animal, either by establishing a biliary fistula in the peritoneal cavity, or by keeping the biliary passages for several hours under pressure, to produce the passage into the urine of an extraordinary quantity of incompletely oxidized sulphur, additional proof of its biliary origin being found in the slightly oxidizable properties of taurine and its derivatives.

2. In man, above all, when the excretion of bile is obstructed, the same anomaly may be

found in the urine, though in a less degree. In general, it is transient, so that in a few days the opposite extreme may occur, or the normal condition be regained. In every case, the essential characteristic of this condition is not the increase alone of incompletely oxidized sulphur, but the increase in the *proportion* of difficulty oxidizable sulphur.—*Revue de Medicine*, Nov. 10th, 1881.—*Medical Progress.*

INJECTIONS OF BROMIDE OF POTASSIUM IN GONORRHŒA.—In eighteen patients under observation there was noted in fifteen a rapid diminution or complete suppression of the erections. The injections are not very painful. They are used five times a day, the last injection being practiced just before retiring. They should be retained in the canal one or two minutes.

The following is the formula: Water, 150 grammes; glycerin, 10 grammes; bromide of potassium, 6 grammes; laudanum, 2 grammes.—*Journal de Therapeutique*, October, 1881.

CILIO-SPINAL CENTRES. — The existence of cilio-spinal centres has been lately the subject of discussion. Budge's discoveries were first called in question by Salkowski, who believed that cilio-spinal centres did not exist, but that cilio-spinal fibres arose in the medulla oblongata or higher. Francois-Frank has, however, after the method of Budge shown that spinal centres influencing the movements of the iris exist. Luchsinger by means of sensory irritations has shown that cilio-spinal centres exist. Tuwim, however, has thrown doubt on these experiments of Luchsinger, stating that after section of the spinal cord sensory irritations did not dilate the pupil. I have made a number of experiments upon this subject. Method: Cats were chloroformed, bound down, the cord divided just below the medulla oblongata, and artificial respiration kept up by a respiration apparatus already described. After a rest of some time the sciatic was irritated by induction currents of a Du Bois apparatus, which was run by a Daniell cell. The external palpebral commissure was slit up, and the nictitating membrane and lower lid held away by weighted hooks. If now the sciatic was irritated the pupil was seen to dilate about two millimetres. When the cord centres were excited by another irritant acting on them through the blood, carbonic acid, then the pupil was also dilated. The cilio-spinal centres may be demonstrated to exist, I think, in another manner. If in a cat the left cervical sympathetic is cut and the cord divided high up, then if no spinal centres acting on the iris existed, the diameters of the pupils should be equal, but experiment proves that the pupil with the sympathetic intact is more dilated than the other. Here some influence through the cervical sympathetic from the cord is acting. It might be objected that the tonic influence of the stellate ganglion, or fibres, still coming from the medulla oblongata caused the right pupil to be larger, but the left pupil was still under the influence of the superior cervical ganglion. I think that it is fair to draw the conclusion that the right pupil is kept larger by the influence of the cilio-spinal centres. I have also made experiments to determine the path of dilating fibres of the pupil by sensory irritation. When in a cat I had cut both cervical sympathetics, and the sciatic was irritated, the pupil was dilated. When the first thoracic and superior cervical sympathetic ganglia were extirpated and the sciatic irritated, the pupil still dilated. When the gray matter on the surface of one of the cerebral hemispheres had been broken up and the cervical sympathetic cut, then irritation of the sciatic dilated the pupil. When the gray matter of both cerebral hemispheres was broken up and both sympathetics in the neck divided, sensory irritation still dilated the pupil. When, however, the cerebrum was broken up down to the base of the brain and the cervical sympathetics cut, the sciatic irritation was powerless. These experiments lead to the conclusion that fibres dilating the iris run in the trigeminus, and that the seat of the dilatation is here, and not in the seat of consciousness, as held by Schiff. The sympathetic ganglia also have an influence on the diameter of the pupil. Francois and Tuwim have made experiments upon this point. I have also exsected these ganglia. When in a cat the right first thoracic ganglion is cut away from all spinal connection and the trunk of the sympathetic below it cut and the opposite sympathetic divided in the neck, then the right pupil will be found to be larger than the left. If now a section in the same animal experimented upon be made above the first thoracic ganglion, the diameter of the pupils will be the same. If the superio-cervical ganglion on the right side is extirpated, then the right pupil is smaller than the left. If in young cats the right superior cervical ganglion is extirpated and the left sympathetic below the ganglion divided, then when the animal is coming out of the chloroform the left pupil is at the time larger than the right, but shortly afterwards it is smaller than the right, and remains so for several days. If atropia is given it does not change the result. These experiments demonstrate, that in the ganglia of the sympathetic resides a tonic influence for a short period over the pupil after they have no anatomical connection with the cilio-spinal centres in the spinal cord. I have already shown by experiments upon rabbits that after section of a lateral column the pupil on that side contracted, showing that cilio-spinal fibres run in these columns and that section removes part of the spinal influence on the pupil.—Isaac Ott, M.D., in *Journal of Nervous and Mental Disease.*

PARALYSIS AGITANS AND SENILE TREMBLING—STATIC ELECTRICITY IN HYSTERIA.—A *résumé* of lectures by Prof. Charcot, delivered at the Salpetrière, on the above subjects, is published in the *Journal de Médecine et de Chirurgie pratiques*, October, 1881. Prof. C. dwells particularly upon the characteristic symptoms of paralysis agitans other than the tremors, which latter may often be completely absent.—*N. Y. Med. Record.*

VASO-MOTORS OF THE LYMPHATICS.—MM. Paul Bert and Laffont have, by opening the abdomen of an animal in the full process of digestion under warm water, discovered the vaso-motor nerves of the lymphatics. In this operation, the chyliferous vessels appear as white cords, and nodosities are formed along them by excitation of the solar plexus or the great splanchnic nerve. Their experiments were reported to the Société de Biologie, April 2, of this year.—*Journal of Nervous and Mental Disease.*

SURGERY.

On Extirpation of the Lung.—Dr. Th. Gluck publishes in the *Berliner Klin. Wochenschrift*, 1881, No. 44, a communication entitled an "Experimental Contribution regarding the Question of Extirpation of the Lung," from which we make the following extract:

In the attempt at the extirpation of internal organs the best results would seem to have been achieved (aside, of course, from reservoirs like the bladder), with those that exist in pairs, one of which may vicariously assume the functions of the other, as with the testicles, the ovaries, the kidneys, and according to the recent experiments of Munk, in a certain degree, even with the centres of the brain. Clinical experience shows every day absolutely the same conditions as regards the lungs, but although castration, ovariotomy, nephrotomy, etc., have become adopted in surgery, no surgeon has as yet ventured to extirpate a lung. Extirpation of a lung has remained a phantasy among phthisical patients, and though hosts of observers from Lænnec to Cohnheim have experimented with the lungs none of them seems to have entertained the idea of cutting one out.

The author now basing his views upon successful experiments with animals in surgical affections of the lungs recommends operative interference in man under the following considerations: 1, the use of anæsthetics; 2, the immediate effect of the operation (*a*) paralysis of the heart (shock), and (*b*) the occurrence of œdema of the lungs; 3, the consecutive dangers during the healing of the wound, (*a*) thrombosis, slipping of the ligature and secondary hemorrhage, (*b*) pericarditis and pleuritis of the opposite side; 4, finally the condition of the thorax upon the operated side and its orthopædic treatment.

First he studies the question of œdema of the lungs, calling attention to the fact that the experiments of Cohnheim-Welch have proven that it may be produced by ligation of the great arterial trunks when it occurs as a result of stagnation of circulation (*stauungs œdem*), but showing also that any serious stagnation only occurs in the lungs under enormous obstacle in the course of the greater circulation. It is only when the aortic arch is blocked between the trunk of the innominate and the left subclavian and two branches of the innominate are closed, that is, when the only escape tube from the aorta (excepting the coronary arteries) is formed by one carotid or the right subclavian that *stauungs œdem* of the lung regularly occurs. Experiments in the way of blocking the flow from the pulmonary veins into the left ventricle have shown that while it may produce œdema of the lungs, that, nevertheless, the block must be very great, that in fact nearly every venous branch must be blocked before œdema occurs, and that it is only under this immense resistance that the pulmonary artery suffers any degree of pressure. Pulmonary œdema occurs, according to the author, when, after paralysis of the left ventricle, the right ventricle continues to act, and this left-sided paralysis constitutes therefore the efficient cause of œdema pulmonum.

Before the author undertook to cut out a lung, he ligated the root of the lung in a whole series of animals. Under these circumstances he never saw œdema of the intact lung as caused either by collateral hyperæmia or processes of inflammation. In no case did there form a parietal thrombosis of the heart, an absolutely necessary condition for the continuance of the circulation. Under antiseptic surroundings and least possible injury the wound healed by first intention. Sudden death occurred twice by arrest of the action of the heart. These were cases in which the ligature was applied too near the heart, so that a part of the heart itself and phrenic nerve were caught in it. No other animal succumbed to the immediate effect of the operation. In several rabbits which died six to eight weeks after the operation the ligated lung was found as a cheesy mass in the thorax. Section revealed the interesting fact that in these cases the ligated vessels had closed by first intention. One of the largest rabbits still runs about in the best of health and a year has lapsed since the ligation of the root of the right lung.

After these observations, Gluck determined to extirpate the lung and he undertook it after free section of the ribs in order to lay bare the root of the lung so that deep sutures might be applied and the capacity of the thorax be reduced as much as possible. His experiments showed that œdema of the lungs and thrombosis of the heart were not to be feared even with the weakest animals. Slipping of the ligature was also a groundless fear. Of course antiseptic precautions, least possible tearing and crushing of the parts as well as well as careful stilling of the hemorrhage were necessary prerequisites to success. The experiment was made on twenty animals, six dogs and fourteen rabbits. The animals withstood the attack very well, and in no case was there subsequent hemorrhage. Between the seventh and tenth days a few of the rabbits died of pericarditis and pleuritis with abundant fibrinous exudation. On the other hand, the author possesses still a pair of rabbits, in one of which the wound of operation after extirpation of the left lung healed without reaction in ten days. There was never dyspnœa or other symptoms of disease. The animals are now, after the lapse of three months, perfectly healthy. The author emphasizes the fact that in these cases the after treatment and nourishment was a model, conditions which in such delicate animals deserve the greatest consideration. They alone guarantee almost absolute assurance of success in the healing of the wound.

The operator now describes the procedure in detail. Uhder anæsthesia with chloroform in dogs (rabbits were not anæsthetized) the side of the thorax is shaven and disinfected. A curved incision with the convexity towards the sternum (from the third to the sixth rib) penetrates the skin and the muscles of the chest. These soft parts are now held apart with sharp hooks. The broad points of origin of the great anterior serratus are now detached and the third, fourth and fifth ribs are resected under the periosteum outside of the track of the internal mammary artery, which, arising from the subclavian artery seven to fourteen mm. distant from the border of the sternum, runs immediately behind the cartilages of the ribs. In rabbits the incision need be but four to six ctm. long, in dogs six to ten ctm. The intercostal muscles were likewise cut away. The slightest hemorrhage is carefully checked. The pleura is now exposed intact and under it may be seen the respiratory movements of the lungs and diaphragm. The pleura is now incised between two pairs of forceps along the whole length of the wound parallel with the sternum. At this moment the lungs collapse and respiration becomes more frequent. Now then either the root of the lung is ligated *en masse* (bronchus, pulmonary artery and vein, lymph vessels, bronchial nerves and vessels), or one lobe of the lung after another is successively extirpated. The pulmonary stump left does not usually undergo aseptic necrosis and mummification, but continues to live like the ovarian pedicle and takes active part in the processes of cicatrisation.

After extirpation of the lung are exposed to view the whole contents of the mediastinum, the posterior pleural space, the trachea, the œsophagus, the two pneumogastrics, the azygos and hemiazygos veins, the thoracic duct, all surrounded by loose connective tissue, likewise the heart and the great vessels which run to it and from it, lastly, the space called usually the anterior mediastinum.

Now follows punctilious toilette of the excavated chest. Here there occurred at times a singular phenomenon. The animals were seized with sharp dyspnœa and cyanosis of the visible mucosæ. But the breathing became normal at once so soon as cavity of the thorax was carefully closed and reduced as much as possible.

Gluck performed the operation in exactly the same way on three human cadavers. Of course in operations on man provision must be made for drainage at the deepest parts.

The author claims that extirpation of the lung in rabbits is indisputably followed by permanent cure.

The following conditions would justify the operation in man: abscess of the lungs, gangrene of the lungs, bronchiectatic and phthisical cavities, tumors and traumata of the lungs. What effect this operation is to have in the treatment of phthisis pulmonum is not yet to be determined. Medical literature shows numerous cases in which puncture and incision of superficial cavities have been performed. Moreover a French surgeon once put a ligature about a small hernia of the lung and successfully removed it. In all other known cases, hernias of the lung were neither replaced nor removed. The custom is to wait for necrosis or for cover by granulations. Gangrene and abscess have been likewise treated expectantly. Ichorous pleurisy is treated by resection of the ribs, disinfection and drainage without regard to radical cure.

The author concludes with the following theses; 1, Ligation as well as extirpation of a lung is extraordinarily well endured by rabbits; 2, Careful after treatment under asepsis secures a permanent healing of the wound; 3, The vessels heal by first intention under this treatment. There develops no parietal thrombosis of the heart; 4, The pulmonary pedicle does not suffer necrosis, but takes active part in the solidification of the cicatrisation; 5, Secondary hemorrhage from slipping of the ligature has never been observed; 6, In fatal cases death was caused by pericarditis and pleuritis of the intact side. But even in these cases there was no parietal thrombosis of the heart.

The author therefore considers it fully justifiable to extend the benefits of this operation from animals to man. He cherishes more and more the conviction that the treatment of diseases of the lungs will hold more and more to the ancient principles: "*Ubi pus, ibi incisio; ubi hæmorrhagia, ibi ligatura; ubi tumor, ibi extirpatio*, and that there shall be no longer fear of adopting resection and extirpation of the lung as operations sanctioned by surgical science. J.T.W.

TREATMENT OF FELONS. — Adinell Hewson offers some suggestions for the accurate diagnosis and successful treatment of felons.

For diagnosis he makes a flattened conical tube of binder's board, with its base 5 x $3\frac{1}{2}$ inches in diameter, so trimmed as to fit closely over brow, cheeks and upper lip. The length is such as to bring the apex at about the distance of the range of distinct vision. The apex is an orifice $\frac{1}{2}$ x $\frac{3}{16}$ of an inch in diameter. The tube is made from a sheet of binder's board, by dipping in warm water to soften it, then rolling it diagonally, and wrapping with cord to retain the form until dry.

By means of this simple apparatus he examines the tissues by transmitted light. In the case of a suspected felon, the patient's finger is brought to the point of the tube, which is held in the direction of a bright light, either natural or artificial, while the face is so applied at the base as to make it fit closely and exclude the light. During the examination, Dr. Hewson finds it of advantage to have the patient practice forced, rapid respiration to produce an anæsthetic effect. If the apex of the tube covers healthy tissues of the finger, the characteristic bright pinkish red color is readily perceived; while, if the tissues are engorged, the darker red tint, deepened in proportion to the intensity of the engorgement will be equally characteristic, and will form a marked contrast to the color to be seen on examining the corresponding finger on the other hand.

If the tint, though still reddish, be of a yellow hue, pus has formed in the cellular tissue around, or in the theca of the tendon. If by making firmer pressure, so as to cut off the lateral illumination through the tissues, the tint is found of a positive yellow, it is evident that there is suppuration in the theca of the tendon. Finally if the tint so transmitted is of a dirty or opaque yellow, the bone or periosteum is the seat of purulent formation and collection.

When such examination demonstrates that pus has not yet formed, he has generally succeeded in aborting a felon by the application of a thick paste of wet clay, covered first with tissue paper, and then with a thin layer of bandage stiffened by liquid glue painted in strips lengthwise on each side of the finger. The object of applying the glue thus instead of covering the whole surface, is to allow the drying of the clay, which would be prevented by coating the whole surface with glue.

Dr. Hewson's experience with such uses of clay has been very extensive, and he reports some very interesting and valuable results obtained by this agent. In the class of cases here considered, he finds that, as a rule, the relief is very prompt, in which case the dressing is allowed to remain for several days. When the pain is not relieved in two or three hours after the application of the earth, he removes it at once, and makes a free incision, as he feels sure that nothing else will arrest the process.—*College and Clinical Record.*

ART AND MYSTERY OF "BONE-SETTING."—The only mystery about that vaunted success of bone-setters lies in their boldness, an audacity bred of ignorance. Knowing nothing of the risks attending the violent jerking of dislocated limbs back into their sockets with the tearing away of adhesions and the rupture of tissues, they apply force in a degree and with a directness which few scientific surgeons would dare to employ. In a considerable proportion of cases no evil consequences may ensue, and the violence of the unskilled is rewarded. It is, however, scarcely fair to call these persons unskilled. There is a rude art about their proceedings. It consists in acquiring by manipulative investigation a knowledge of the way joints work under natural conditions, and by inference how they may be put out of gear. In this rough knowledge, which is of a sort with that which the able-bodied seaman possesses in regard to the ropes, sails, and rigging of his ship, the successful bone-setter is generally expert. He knows no more of the vital mechanism of the human body than the sailor knows of navigation; and though he may be able to haul and jerk, he can not either know what he does or determine when and how force may be safely applied or would prove dangerous. It is strange indeed that the intelligent community should trust their limbs—and lives—to bone-setters. Nothing but blindness to the ignorance of those they employ can explain the fact that they frequently do so. It is desirable that the facts with regard to the sort of success bone-setters sometimes achieve should be clearly understood. It is the success of the man who by a lucky jerk of the wrist may chance to pull out a tooth which a skilled dentist would scarcely attempt to draw. That blacksmiths can and do extract teeth, and bone-setters can and do reduce dislocations which surgeons have not had the hardihood to tear away from their false positions and force back into their sockets, no one can deny; but that these feats are accomplished by dint of a daring which comes of ignorance should be generally understood.—*London Lancet.*

LAPAROTOMY AND CYSTORRAPHY IN PERFORATING INTRAPERITONEAL WOUNDS OF THE BLADDER.—As deductions of a recent series of experiments upon rabbits, whose peritoneum is reputed to be particularly sensitive, Dr. Vincent presents the following conclusions:

Contact of urine with the peritoneum is not as fatal as has been supposed, since, of fifteen rabbits, twelve have survived a momentary or prolonged urinary inundation.

The peritoneal surfaces being placed in juxtaposition, the vesical suture, composed of independent metallic loops left in the abdomen, may be employed with almost a certainty of success.

In intraperitoneal solutions of continuity of the bladder, followed by an extravasation of urine into the peritoneal cavity, vesical suture, preceded by laparotomy, and executed immediately or after a short space of time, will almost certainly save the subject; this it will do, whatever be the cause of the lesion, and in spite of grave complications.

When intraperitoneal perforation of the bladder has been executed and extravasation of urine taken place, the subject may still be saved, although laparotomy and suture be deferred for from three to forty-eight hours.

The possibility of spontaneous cicatrization of vesical perforation has been experimentally demonstrated in animals with a sensitive peritoneum; but it is not the rule.

In view of the foregoing conclusions, and the mortality in intraperitoneal perforations in man, the author in such cases recommends laparotomy and vesical suture; these must be rapidly executed. His experiments, furthermore, argue in favor of the supra-pubic operation for stones of large size and extreme hardness, small and friable calculi being removed by the lithotrite. In his operations upon animals, he exposed the intestines as little as possible, and extracted the bladder through a very small opening. He objects strongly to the use of the spray, and the washing out of the peritoneal cavity with the carbolized solution, but advises a scrupulous observance of other customary antiseptic measures; he also recommends that the room be disinfected with a strong spray of carbolic acid several hours before the operation.—*Lyon Médical*, September 25, 1881.

THE SURGICAL TREATMENT OF CANCER OF THE ŒSOPHAGUS.—The animated discussion on this subject at the last meeting of the Clinical Society, reported at page 817 of the *British Medical Journal* for November 19th, will help to render the surgical treatment of œsophageal cancer more precise than heretofore it has been. The discussion arose on a paper read by Mr. Reeves at the preceding meeting, in which the author detailed the history of two cases of cancer of the œsophagus, both of which he had treated by gastrostomy. He then proceeded to lay down certain principles of treatment, and thought

œsophagostomy a preferable operation,
of the great mortality after gastrostomy,
because of the more frequent occurrenc
lignant stricture in the upper portion of
Whilst even in cases where the strictu
low down as the manubrium sterni, M
thought œsophagostomy was indicated
liminary or exploratory operation; that
finger or sound might be passed through
rowing for the purpose of dilating it; a
the stricture was found to be imperme
trostomy might then be performed.
gostomy, Mr. Reeves asserted, had nev
the death of the patient. Various s
for the safe performance of the oper
also noticed in the paper. The discus
deferred, Mr. Golding-Bird commence
next meeting by presenting brief abstr
cases of cancer of the œsophagus,
which he had performed gastrostomy.
showed that the chances of giving
inversely as the length of time the
suffered. One man had lived for f
after gastrostomy; he was sixty-six ye
but his symptoms (dysphagia) had
for two months. All the other cases
longer histories. Peritonitis had onl
countered once, and was then due to
in feeding, not likely often to recur.
cated early recourse to gastrostomy,
patient's digestive and recuperative
erally were enfeebled by the malady.
ation should be done with all the ca
Verneuil and Howse had introduc
procedure, and which included the
the wall of the stomach to the abdo
ing by two circles of sutures about a
and the deferring of the opening of
for about four or five days after su
In Mr. Golding-Bird's experience, i
Goodhart, and of Mr. Lister, the
usually situated at the lower part o
agus, and even if it could be felt
could not be sure how far it extend
that Mr. Golding-Bird considered
with precautions at an early stage
far preferable to œsophagotomy.
offered a third suggestion for treat
feeding of the patient through an e
passed into the stomach from th
allowed to remain there for abou
days, until, in fact, it was necessar
and introduce another. This alter
treatment he had adopted in seve
happy results. In one case a N
could only at first be passed, wherea
months the patient was wearing
catheter. Dr. Krishaber, at the re
national Medical Congress, had adv
passage of the catheter through the
policy of this modification was comba
Durham as being more disagreeable
wearing of a "nice little pipe in the
He thought that if feeding through a t
be accomplished, it should certainly be
before either œsophagotomy or gastros
performed. Other speakers took part i
cussion. Dr. D. Powell warned the use
catheter against the dangers of the p
the instrument from ulceration, elsew

THE

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and rare specimen of a cyst developed in the abdomen of a man, and is probably unique in regard to its volume. Dr. Wilkes mentions an analogous case of dermoid cyst similarly located, occurring in a man aged twenty-one. Dr. Curling had occasion to treat this patient later, removing from the bladder a soft, phosphatic calculus, the centre of which was composed of small black hairs. Lebert reports ten observations of non-ovarian cysts found in deep parts of the body, and several cases are also alluded to by Blackman.—*Archives Générales de Médecine*, July, 1881; *Medico-Chirurgical Transactions* Second Series, vol. xlv.

Suppuration Without Micro-organisms.—A contribution of great importance will be found in the October number of Virchow's *Archiv*. Dr. Uskoff, of Cronstadt, has made experiments which appear to prove that suppurative inflammation can occur independently of micro-organisms. He injected small quantities of distilled water, milk, oil, pus and turpentine into the subcutaneous cellular tissue of dogs, and examined the tissues microscopically a few days later. He found that the injection of bland fluids, such as water and milk, caused no suppuration, provided that only a gramme or two was injected, but that large abscesses formed when several grammes were introduced. The injection of turpentine, especially when not diluted with oil and carbolic acid, produced, in most cases, large abscesses, containing pus which was entirely free from micro-organisms. From this Dr. Uskoff concludes that, although micro-organisms may in many cases be the proximate cause of suppuration, morbid process may exist entirely independently of them, being due to chemical irritation, as when turpentine is used, or to damage of tissues, as in cases where a considerable amount of water is forcibly injected. We intend shortly to refer at greater length to this most important subject.—*British Med. Journal*.

Anthrax Cured by the Interstitial Injection of Carbolic Acid.—In a Spanish medical journal (*The Medical Record*) Dr. Munoz publishes two cases of anthrax cured by the interstitial injection of carbolic acid. The first case was a man thirty-one years of age, of sanguine temperament and a good constitution. In the upper part of the right hypochondrium he had an anthrax about the size of half an orange. Injections into the base of the tumor were practiced with the following solution:

Carbolic acid,	grms.	5.
Alcohol,	grms.	10.
Aqua dest,	grms.	100.

After each injection (directed toward the centre of the tumor) compresses moistened with the same solution were applied. The pain diminished rapidly, and finally disappeared; the tumor decreased in size and the temperature fell. Double injections were practiced mornings and evenings for eight days, when a complete cure resulted.

The second patient was a man aged forty-four years, of sanguine temperament and strong constitution. An anthrax of the size of a hen's egg appeared upon the postero-lateral aspect of the neck. The above treatment was followed out, and a cure resulted in a few days.

OBSTETRICS.

Chloral in the First Stage of Labor.—During the last few months (*St. Louis Courier of Med.*) I gave chloral to the majority of parturient of women, excepting only those cases with which the first stage was short and easy, and few others where use was contraindicated by existing heart lesions. The following remarks are based upon 31 cases mostly primiparæ. Mode of exhibiting consisted in giving 15 grains every half hour until patient came under its full influence; in unusual rigidity of the os 30 grains as the initial dose. Total amount in each instance varied from 30 to 75 grains, 45 grains being sufficient in the majority of cases. To a few patients 30 grains were given by enema; in the parturient state chloral appears to act more satisfactorily when given by rectum.

Chloral modifies the dilating pains of the first stage; renders them decidedly less frequent, more effective, and less harassing to the patient. The teasing, wearing sensation in the interval between the pains, with its suffering subside, giving way to peaceful somnolence. The effect is often so very striking that the parturient process seems to be entirely suspended. Digital examination during the pains, however, shows the uterine contractions to have increased in efficacy, from the more powerful protrusion of the amnion and the rapid progress of the first stage. No effect is appreciable on the third stage. The propulsive pains were frequent and vigorous. Chloral has the undubitable property of overcoming functional rigidity of the os, and this effect may be confidently looked for in all cases which have been fully brought under its influence. In some instances the rapidity of its action is surprising. I have repeatedly found that an os, which, after hours of severe pain, had remained small, rigid and almost cartilaginous, would become flaccid and freshly dilatable half an hour after the administration of thirty grains of chloral; but few cases will fail to yield after the lapse of two hours. The presence of fœcal matter in the lower bowels seems to counteract the action of chloral; in two cases of rigidity of the os, which had remained intractable for several hours, a speedy relaxation took place after the administration of soap water enemata; the rectum in both cases was empty.

I have been unable to discover any evidence of its action on the child. The frequency of the maternal pulse is always slightly diminished by chloral, but in no case have I found a corresponding decrease in the fœtal heart sounds. Neither have I been able to discover any traces of the possible effect of chloral, after birth, on the child's pulse, respiration, sleep, and pupils. A case has been related to me in which two hundred grains had been given to the mother during the twenty-four hours preceding delivery; neither mother nor child showed any untoward symptoms. In chloral, then, we have a safe and powerful agent to alleviate and shorten the first stage of labor. I believe that more extensive observations will prove it to lessen the risk of laceration of the cervix. Dr. Emmet says: "At least one-half of the ailments of those who have borne children are to be attributed to lacerations of the cervix." Dr. Schenck says: "The profession could do much if they would bear in mind that chloral in the early stage of labor is as necessary as they generally think ergot is in the later stages." — B. Bribach, M. D., *Gaillard's Journal.*

RUPTURE OF UTERUS SUCCESSFULLY TREATED BY DRAINAGE.—Two cases are reported in a recent number of the *Centralblatt für Chirurgie,* one in a patient æt. 35, in her fifth labor, the other in a patient in her thirteenth labor. In both a foot was seized and the child extracted (from the abdominal cavity) *per vias naturales,* in one case it being necessary to enlarge the rent by small incisions with scissors. The placentæ were next extracted. In one only carbolic acid injections were used. The tubes were removed on the fourth and thirtieth days respectively. There was slight pyrexia in both some days after the accident. Frommel reports in *Zeitschrift für Geburtshulfe und Gynakologie,* eight cases, seven of which were treated by laparotomy, all fatal—one by drainage with recovery. Dr. Græfe remarks there can be no doubt of the advantage of simple drainage over laparotomy in country practice, where the necessary assistants, instruments, etc., for laparotomy often cannot be had in time to be of service.—*Medical Times and Gazette,* Oct. 22.

LONG RETENTION OF THE PLACENTA.—Mrs. T., aged thirty-nine, married nineteen years, mother of twelve children, besides having had several miscarriages. She became again pregnant in the spring of 1881. Towards the end of June, without any well marked assignable cause she miscarried, at the time when she considered herself between the fourth and fifth month of pregnancy. A nurse who attended her thought everything had come away. All traces of hemorrhage ceased at about the end of a fortnight, but in about a month from this date she had a profuse loss of blood per vaginam, and the discharge of blood continued on and off for another two months. On the evening of October 6th I was requested to see the patient in consultation, as the hemorrhage had returned more violently, large clots being from time to time passed. On examination the uterus was found to be much above the normal size, the os patulous, readily admitting the finger, which detected a mass of moderately firm consistence, adherent to the fundus, smooth and somewhat lobulated on the surface. evidently, from its feel and its extensive base of attachment, placental. But little difficulty was experienced in passing two fingers within the cervix. The mass was gradually peeled away, commencing at the circumference. It was then extracted piecemeal by the aid of ovum forceps, as it was too large to pass through the os uteri. There must have been at least three ounces by weight, probably the whole of the placenta. It was not the least offensive to the smell, nor did it bear the slightest trace of decomposition. The uterus was subsequently washed out with hot water, ergot and opium administered, and a pad and binder applied.—Dr. A. W. Edis, *Lancet.*

OPHTHALMOLOGY.

STRYCHNINE THERAPY WITH REMARKS ON HYSTERICAL DISTURBANCES OF VISION.— The author examined a young girl of fourteen, who was hypermetrophic with insufficiency of the internal recti, and gave her convex glasses. This was on November 29th, 1879. On December 8th she returned and said that for eight days the vision of the right eye had rapidly diminished. The ophthalmoscope showed double optic neuro-retinitis, the nerves moderately swollen, and the outlines lost, the cloudiness extending over into the retina, enlarged and tortuous retinal veins, veiled at points. Both eyes presented the same picture.

Vision was about perfect in the left eye, but was entirely gone in the right, according to the patient. The patient was subjected to the proper treatment.

The author presented her at his klinik, remarking that it was just in such cases that strychnine injections had been recommended.

On January 28th, *injections* were begun. On the 31st light could be seen; February 1st, movements of the hand; on February 8th, with the right eye, 1,25 at 12 to 14 cm. could be read fluently; on 11th, No. 18 at 3 feet, No. 24 at 6, No. 36 at 9.

On February 18th there was about perfect vision.

The retinal haziness and that of the nerve still continued, though in a less marked degree.

The author had convinced himself from the beginning, since before the injections, that the right eye enjoyed as good vision as the left, and on that account had presented the patient at his klinik, to demonstrate how one can prove with the prism and stereoscope good vision in asserted blind eyes.

This patient received injections (hypodermic), *not of strychnine, but of distilled water.* [Ital. tran.]

There was at no time any reason for discrediting the assertions of the patient.

There was no other signs of hysteria, whether there was a former history of it or subsequent development of it the author could not say. Since, however, hysterical blindness of both eyes occurs, why not of one?

The author reported a case in his "Investigations on Strabismus," in which a female patient did not see the hand before the eyes and yet was able to go about alone, while a simultaneous maximum convergence of the visual axes continued for several days could not, however, be simulated.

The patient evidently saw objects in her way for she avoided them in going about, but her consciousness was overcome by the impression that she could not see.

Why should we not have the same thing occurring for one side? Many cases of one-sided hysterical disturbance of vision that are usually looked upon as simulations, in which however there is probably no intentional deceit, can be arranged along with hysterical palsies and anæsthesiæ. The visual disturbance depends entirely upon the consciousness being overcome by the impression that one eye cannot see; and if we then demonstrate, with the prism and stereoscope. the opposite, the artifice (kunststück) depends upon this, that the entire occurrence does not take place through the consciousness of the hysterical patient. We aim by it to make the impression that the seeing is with the sound eye and not with the asserted weak-sighted one. The author could adduce similar proof from a case of monocular hysterical color-blindness.

An hysterical female patient under Professor Westphal's treatment, in the department for nervous diseases in la Charité, asserted that she was color blind in her left eye, that she saw all colors with it as gray, with the right in the normal way.

The stereoscope here also made an interesting disclosure.

As is known, everthing in the stereoscope that lies in our visual field to the right of the middle line, appears also in the common visual field to the right. If one, for example, brings an object into the median half of the left visual field, it lies in the common visual field to the right and creates the impression that it is seen with the right eye.

In that hysterical monocular color blindness it proves that small pieces of colored paper are correctly seen if one brings them in the stereoscope, into the median half of vision of the left color blind eye, manifestly because the patient now has the impression as if seeing them with the right eye; the same colors, on the contrary, appear gray in the temporal half of the visual field of the left eye.

Just so would the colors be correctly recognized with the right non-color blind eye received on the temporal half of the visual field, but on the contrary be called gray in the median half. It suffices therefore to excite the impression in the patient that she sees with the left hysterically affected eye, in order to produce the same phenomena of color blindness in the visual power of the other (sound) eye.—Professor Schweigger, *Klinische Monatsbl. f. Augenheilkunde*, November 8, 1881. W.W.S.

AURAL AFFECTIONS IN EXANTHEMATIC DISEASES.—In the *Archiv für Ohrenheilkunde*, vol. xvi., Dr. Gottstein has a paper on this subject. He refers to the rarity of observations, by competent observers, of the earlier stages of the ear diseases which occur during the exanthemata. From the statistics of Burckhardt Merian it is seen that of all the cases of ear disease which were referred to exanthemata, but 16 to 18 per cent were seen within the first six months of their development; and Gottstein's own statistics are not any more favorable for the observation of the acute stages of diseases, and for the determination of the question of how the great destruction which is so often seen in such cases occurs. Wreden, of St. Petersburg, from his connection with the large children's hospital of that city, had most unusual opportunities for early observations. He has reported diphtheritic inflammation of the middle ear as very common in scarlet fever, but his observations have not been confirmed by others, as Gottstein thinks, owing to the ear disease being seen only in its later stages. According to Wreden, the diphtheritic exudation continues only for fourteen days, and is succeeded by suppuration, the stage in which the disease usually comes under treatment. As contributions to this subject, Gottstein narrates three cases—one of croupous inflammation of the vellum, pharynx, nose, and both middle ears, in the second week of scarlet fever; one of diphtheria of the throat, with diphtheritic inflammation of the left tympanum, in the second week of measles; and one of acute desquamative inflammation of both tympanic membranes, with perforating tympanic inflammation, in the course of measles. In the first case, two days after the appearance of diphtheritic membranes in the pharynx and nose, great deafness was noticed, and examination showed diphtheritic membranes over both drum-heads, which were already perforated, and the same exudation covered the tympanic mucous membrane. From the history, the presence of membrane first in the nose and later within the tympanum, Gottstein concludes that the exudative process extended up through the Eustachian tube to the tympanum and produced the destruction from within outward. In the second case, soon after the appearance of diphtheritic membranes on the uvula, palate, and tonsils, great deafness, without pain or discharge, was noticed in the left ear, and the deeper meatus was found to be covered by similar membrane. After removal of this, the membrana tympani was found perforated and the tympanic cavity in a state of suppuration, but without any membranous deposit, and Gottstein feels uncertain whether the exudation of the ear was an extension from the pharynx or was an independent deposit. In regard to the treatment of diphtheria, Gottstein has never seen the diphtheritic process shortened by cauterization, and considers that therapeutic efforts should be directed to the removal of the exudation and to disinfection of the mucous membrane. He advises prolonged baths in aqua calcis, and powdering the diseased surfaces, after removal of the membranes, with salicylic acid.—*Medical and Surgical Reporter*.

DEVELOPMENT OF THE EYES.—In children of a few weeks of age, the curvature of the cornea is much stronger, the radius therefore much shorter than in the normal eye of adults.

2. Its greatest change takes place in every case, during the first half of the first year of life.

3. From this period on the corneal radius gradually increases up to the seventh year.

4. From the seventh year to the twelfth the cornea seems to experience no change in its curvature.

5. In the twelfth and fourteenth years a decided growth in the corneal radius is observed.

6. Between the fifteenth and twentienth years it reaches the same size as is found in adults under normal conditions.—Reuss, *Græfe's Arch.*, 1881. W.W.S.

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Cincinnati, January 7th, 1882.

Miscellany and News.

DR. J. C. MCMECHAN will read a paper on the use of "Veratrum Viride in Typhoid Fever" at the Academy of Medicine on Monday, January 9th, 1882.

BOVINE VIRUS.—Ernst Wilfert, druggist, at the Corner of Fourth and Walnut Streets, is in daily receipt of vaccine points from the vaccine farm of Dr. E. L. Griffin, President of the Wisconsin State Boad of Health. Bovine virus from reliable sources is destined to take the place of the humanized virus so long in use in this country.

SOUTHERN CLINIC, for January, 1881, under editorial notices, says of Powell's Combined Beef, Cod Liver Oil and Pepsin: "It is a preparation worthy of the attention of the medical profession. We have here a combination that is palatable, nutritious and digestible."

THE PERILS OF THE OBSTETRICIAN.—The following letter, which speaks for itself, was received by a leading gynecologist of this city: "I presume you remember the time, nearly four years ago, when you had attended my wife at the conception of her child. We lived at that event at —— West Thirtieth street. You charged $20, which I paid you $10 on account. I intended to have paid you in full, but parties advised me not to do so, as you had not done an honorable act in hurting my wife. I now, knowing that my wife is in a precarious predicament from the effects of your hurried attention to her bringing forth the child, notify you that suit shall be brought against you should my wife die from said hurriness or negligence of duty on your part, I will do all I can to punnish you for this act. You gave her a milk leg—Indeed it was not so, but you closed a vein on the right of the womb. If you had taken time to do your duty, as a good doctor would have done, this would not have happened. Now, I hold you responsible for this; and, as my wife has just begun to suffer from it, I look to you as the guilty one.

"Verry Resp., R.J.M."

—*N. Y. Med. Record.*

EXPERT FEES IN COURTS OF JUSTICE.—A case of interest to the medical profession was tried in the Superior Court at Boston last week before Judge Aldrich. Dr. Thomas Dwight, of Boston, brought an action on a promisory note made by Byron A. Osgood and his wife, who defended the suit on the ground that there was no legal consideration for their promise to pay. Messrs. Russell Gray and Henry W. Swift appeared for the plaintiff and Mr. Rodney Lund for the defendants. It was proved at the trial that Mrs. Osgood met with an accident and was severely injured in consequence of a defect in a street in Lynn, and was attended by Dr. Dwight. She afterwards brought a suit against the city, and recovered heavy damages, after a long contest involving no less than four trials. At three of these Dr. Dwight was called as a witness, and was examined not only on his knowledge of the facts in the case, but also as an expert on the anatomy of the part injured, the probable results of the injury, and the prospects of the patient's recovery, and was consulted on these matters by the plaintiff's counsel before the trial. He was paid only the ordinary witness-fees, and, objecting to give his professional opinion as an expert without being paid as such, Mrs. Osgood and her husband gave him the note now sued on. The defense set up on their behalf was that a medical man is bound to testify to anything he may happen to know relevant to a case in court, whether it is a matter of fact in the particular case or of general professional knowledge or opinion; and that he cannot lawfully require for giving his opinion any greater fees than an ordinary witness is entitled to; and that, therefore, a promise to pay such extra fees is a promise to pay for doing a thing which the law requires to be done without payment, and cannot be legally enforced. The court, however, disallowed this defense, and ruled that a physician is not bound to give his professional opinion for nothing in court any more than elsewhere; that he may require to be paid for testifying as an expert; and that the giving of such evidence, or a promise to give it, is a good consideration for a promise to pay by the party at whose request it is given. Under these rulings the jury found a verdict for Dr. Dwight for the full extent of his claim.

This decision, not being made by the highest court of the State (which has never passed on the question), does not conclusively settle the law; but it affords a precedent which will probably be followed, and is doubtless in conformity with the general opinion of lawyers in Massachusetts. In other States of the Union, so far as the question has come up, there is a conflict of authority.—*Boston Med. and Surg. Journal.*

THE BALLAD OF BACILLUS. (Dedicated to Professor Virchow.)—"The same *Bacillus* as that found in hay was produced. On the other hand the innocent organism found in hay might by a different method of cultivation be made to acquire virulent properties. Fed upon a vegetable diet, it was tame and harmless; but transplanted to another soil and given animal nourishment, it became savage (*verwildert*) and virulent."—*Prof. Virchow's address, International Med. Congress.*

O, merry *Bacillus*, no wonder you lay
Quiescent and calm when at home in your hay;
You never meant evil in hay-fields, no doubt,
Till cruel experiments worried you out.
An innocent germ on a sort of probation,
O, why did pathologists try cultivation?

We hear you were harmless and charmingly tame,
So why did our Virchow besmirch your fair fame;
Why should he transplant you, with infinite toil,
To new and to wholly unnatural soil;
When food vegetarian kept you so quiet,
Why tempt you to fury on animal diet?

"*Verwildert!*" says Virchow, who surely must know,
You are when transplanted and cause us much woe;
So prithee, *Bacillus*, don't travel so far
As us, but stay peacefully just where you are.
You're innocent now, and have no wish to ravage,
And we've no desire, dear, to render you savage.
—*Punch.*

MEDICAL TEMPERANCE.—The press generally, and the teetotal press in particular, has been lately giving much attention to an address upon alcohol by Dr. Andrew Clark. It is no mean proof of the gravity with which medical men treat this subject, that one of the busiest of London physicians, during his much-needed summer vacation, should respond to an invitation from the teetotallers of a Scotch town to give them his views on it. It is creditable also to the teetotallers that they should in their crusade against intemperance have asked for the help of a physician who holds the scales with a judicial hand, and is not prepared to go their lengths in cursing alcohol. Dr. Clark told the sturdy teetotalers of Galashiels that the young and the healthy were infinitely better without alcohol; that many people using alcohol and thinking themselves the better for it, and looking strong and stout and rosy beyond their fellows, were damaging their most essential organs by what they considered moderation, but what he called excess of the physiological quantity; that he regarded it—this so-thought moderate drinking—potential in the production of gout, heart disease, Bright's disease, and liver disease. But Dr. Clark stopped short of the shibboleth of the teetotallers. One of his chief words to the intelligent and strong teetotallers of Galashiels was to suggest to them that good and blessed as the work was which they were doing, they might extend it by forming a society of persons who would be bound by "physiological quantity," who would use alcohol only as a diet and not at random or for social reasons. Many persons, Dr. Clark argues, would and should join such a society who cannot see their way clear to join a strictly teetotal one, and whom he as a physician could not advise to join.

From a medical point of view Dr. Clark is quite right. We must avoid the intemperance which disparages moderation so long as it is real and not deceptive...We would undertake to say that a dozen leading medical men could be found to formulate rules for the use of alcohol that would involve no danger to health and be a powerful protest against existing abuses. Another of Dr. Clark's suggestions would strike at the root of more than half the intemperance which obtains—namely, that there be no drinking of alcohol save with meals. This is a point upon which medical opinion is unanimous. There is nothing but evil as a rule in the practice of taking alcohol without food. Casual drinking at any hour of the day, with any stray companion, upon an empty stomach, is to invite disease and lay the foundation of drunkeness.—*London Lancet.*

ZULU CLYSTERS.—The Zulus have an apparently very pleasant and efficacious way of administering an enema. The individual in need of an injection is grasped by two vigorous natives and made to stand on his head. While in this position a funnel, made by sawing off the tip of a cow's horn, is introduced into the rectum. Water *ad libitum* is then poured into the instrument, which, done, the parties disperse, satisfied that nature, thus assisted, will accomplish the desired end.—*N. Y. Medical Record.*

DR. T. LAUDER BRUNTON, editor of *The Practitioner*, has ventured into popular literature and written a work, entitled "The Bible and Science," It is published by Macmillan and has received very commendatory notices.

THE College of Physicians and Surgeons of Chicago is the name of the new medical college organized at Chicago. The incorporators are Dr. A. Reeves Jackson, Dr. C. Warrington Earle and Dr. A. K. Steele.

Bibliography.

THE OPIUM HABIT AND ALCOHOLISM.[1]

The above title gives but little indication of its contents. It would have been more appropriate had our author named his book "What I do not know about the opium habit, and what I claim to know about the cure of diseases commonly regarded as incurable."

This monograph deals with a subject of such importance to the profession that some defects could be overlooked, but so great are its sins of commission and omission, such utter want of knowedge is manifested in regard to the commonest branches of an English education, to say nothing of a lack of knowledge of chemistry, physiology, therapeutics and Latin, which the author unfortunately attempts at times to use, that one is tempted to ask why he should have felt called upon to write this book, which will not in any respect bear comparison with any work yet published on the subject. It is not complimentary to the intelligence of the profession when the author offers "this record of the result of twelve years' experience" in order that "the practitioner may familiarize himself with the symptoms and cure of the opium habit and alcoholism."

The chief object of the work seems to be to bring the author before the public as one possessed of infallible cures for phthisis, cancer, cirrhosis of the liver, ulceration of the "os uterus," catarrh, dyspepsia, etc. He gives directions for the transfusion of blood "to restore the vital energies of patients suffering the last stages of pulmonary consumption." He also describes "a preparatory treatment for pregnant women to modify or entirely allay the pain of parturition." "English women," our author tells us, "judiciously treated to prepare them for labor have given birth to well-developed babes without consciousness of the fact and while sleeping." Cases are on record in which the puerperal state was initiated without consciousness on the part of the female but so blissful a termination, never.

The author's cancer cure is worth referring to, but it is unfortunate that in the case selected to demonstrate the influence of opium over cancer neither the habit nor the cancer were cured. The treatment consists in the application of a paste, the prescription for which (page 107) is here given literally:

"℞ Pulvis Goa, gr. x.
Chlorinated lime, ℈i.
Sanguinaria pulvis, gr. iv.
Vaseline, ℥i.

M. Sig. Cover the diseased part with a thin coating every morning until "sluffing" of the diseased mass is excited, which will, through a process of suppuration, cast off the cancerous growth, leaving healthy tissue intact."

This prescription, although possessing therapeutic interest, would not be looked upon as a model of correct prescription writing; there is a mixture of Latin and English, the Latin words are not put in the genitive case and there seems to be some indecision as to the use of capitals and small letters. This is the character of all the prescriptions in the book. "*Pulvis* liquorice," "*pulvis* Dover's," "Rose *Aqua*," are samples of the frequent marriage of Latin and English words. "Pediluriæ" as the plural of pedilurium, "the prolabia is &c." are further evidences that "*little* knowledge is a dangerous thing."

The use of the obsolete "throve," of the adjective "mucous" as a noun, "ænemia to move the bowels," "abcess," "codia," "cicatrixs," "adynæmic," "diffusable," "teaspoonsful," "vomitting" (a bad case of emesis from too much t), "perverted secretions," and many more such might be attributed to carelessness on the part of the compositor and proof-reader did not most of them occur with such frequency as to show that the text was probably too closely followed. Exception might also be taken to the loose construction of sentences, many of which are so indistinct as to raise a question in the mind of the reader whether the author himself had a definite conception of the idea he wished to convey.

We read that the *sphincter ani* expels substances injected into the bowel—a new function for a sphincter muscle. Also that remedies administered by injection failed to operate "owing to a paralyzed condition of cutaneous surface preventing absorption."

Another defect, of minor importance, however, is the use of the personal pronoun "we" instead of "I." This is a privilege accorded to royalty and the editorial fraternity but custom has not sanctioned its use by authors and lecturers, who are expected to avoid the appearance of egotism by refraining from frequent reference to themselves.

Passing without further comment the literary blemishes and physiological, chemical, anatomical and therapeutical blunders, attention is called to the author's treatment of the opium habit, which seems to consist in the gradual reduction of one narcotic and the substitution of others, cannabis indica being used in all the reported cases; coca, belladonna and hyoscyamus being sometimes added. The doses of the substitute are increased as the opium is withdrawn. How much better off the victim is when he can only do without opium by taking as objectionable narcotics we are left to imagine.

We hope we may be pardoned for venturing to express views at variance with those advanced by the author in regard to the treatment of this habit, but our opinions, like his, are based upon personal experience, having treated in asylum and prison practice many persons addicted to the use of morphine in large doses—doses of five, ten, in one case sixteen and another twenty-five grains daily.

The author says "Experience has demonstrated the value of customary surroundings for patients while under treatment," and "The best results are obtained at home." If experience has demonstrated anything it is that those addicted to the use of opium are unable to quit the habit without more restraint than can generally be imposed at the home of the patient except in cases where the narcotic has been used but a short time and in small quantities. The best restraint is to place the patient under lock and key. It is thus that the best results are obtained and in many cases is the only means of effecting a cure. If this cannot be resorted to the presence of strangers will have a more restraining influence than the presence of the immediate family, and, as is the case with the insane, the patient will more willingly yield to the control of strangers than near friends.

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[1] A Treatise on the Habit of Opium and its Compounds; Alcohol, Chloral-Hydrate, Chloroform, Bromide Potassium and Cannabis Indica. Including their Therapeutical Indications with Suggestions for Treating Various Painful Complications. By Dr. Fred. Heman Hubbard New York: A. S. Barnes & Co.

But passing by the question of restraint and coming to that of treatment, we must express a disapproval of his plan of gradual reduction. The way to stop the use of opium is to cut it off at once. The shock of abrupt discontinuance is but little greater than the reduction to one-third of the usual dose and is recovered from almost as speedily, and as each reduction, no matter how small the amount, is attended with nearly as great distress, the whole amount of suffering inflicted is much greater by gradual reduction than by immediate discontinuance. This is the result of observation, having tried both plans, and the recorded experience of others will bear out the statement.

While much that is foreign to the subject is injected into the volume, subjects that might properly be discussed are omitted or barely mentioned. "The Differential Points in Diagnosticating between Opium Narcotism, Alcoholism and Mania of Approaching Diseases—Essential Characteristics pertaining to Each," is the heading of a chapter of thirty-six lines—lines by no means pregnant with information.

This book is of no account to the medical man and in the hands of the laity, for whom it was no doubt intended, would be mischievous. *

Eczema and its Management.[1]

This work on eczema and its management is certainly one that will be received by the profession at large with great pleasure. It is a book that will be of especial value to the general practitioner. No disease of all the numerous diseases of the skin is as frequently met with as eczema. No disease is as frequently mismanaged as eczema. No disease is more frequently not diagnosticated properly than eczema. It is for these and other reasons that the book is one of value to the profession. The observations and ideas of the diagnosis, prognosis and treatment are those that the author himself holds in regard to the disease. They must be received with great respect as the author has certainly had a very large experience with this most common of all skin affections. Great stress is laid on the constitutional as opposed to the purely local origin of the disease, because, as the author says in his preface, "he is confident that success in dealing with the disease can be thus best attained." The chapter on therapeutics is a very valuable one and gives the author's experience in the treatment of a very large number of cases.

The work is gotten up in a most excellent style and although perhaps not an exhaustive treatise on the subject is certainly one that any practitioner can derive benefit from. Everything is concisely and clearly stated and all the latest authorities are quoted.

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[1] A Practical Treatise based on the Study of Two Thousand Five Hundred Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., Attending Physician for Skin and Venereal Diseases at the New York Hospital, Out-Patient Department; Dermatologist to the Hospital of Ruptured and Crippled; Editor of the "Archives of Dermatology"; Translator with Notes of Neumann's Hand Book of Skin Diseases, etc. Published by Geo. P. Putnam's Sons. For Sale by Robert Clarke & Co. Price $3 00.

A System of Surgery.[1]

Success has crowned this undertaking of revising Holmes' Surgery, so far as the first volume is concerned. The appearance of the second and third volumes will be hailed with great satisfaction, judging from the appearance of the book before us.

Dr. Packard and the publishers may congratulate themselves in having made a valuable addition to surgical knowledge.

The original work sustained a great reputation as a complete epitome of the opinions and experience of England's greatest surgeons. The practice of London's largest hospital was given by a corps of distinguished surgeons, in a series of monographs, on all the science of surgery. St. George's, Guy's, St. Thomas', St. Bartholomew's and other hospitals were represented, and the profession received the work with great favor.

A great addition has been made to the vast store of knowledge which the original articles contained. The author, Dr. Packard, has incorporated in the American edition new surgical material, much of which has accumulated in the ten years which have elapsed since the original appearance of the work.

Dr. Packard has chosen wisely in selecting his co-laborers who have faithfully discharged the duties of revision and of rewriting such parts of the original articles as was deemed advisable.

A three volume edition will prove preferable to the five volume one, and in the new edition the subjects so far have been grouped more conveniently than they were in the old.

To the reader the work is interesting and to the surgeon in active practice it will prove a great aid, as it promises to be a complete library on practical surgery. C—Y.

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[1] Edited by T. Holmes, M.A. First American from Second English Edition. Thoroughly Revised and much Enlarged. By John H. Packard, M.D. Philadelphia: H. C. Lea's Son & Co. 1881.

Now is the time to renew your subscription for 1882. Remember you can obtain the LANCET AND CLINIC and OBSTETRIC GAZETTE for one year for $5 00.

Original Communications.

THE TREATMENT OF HIP-JOINT DISEASE.

By E. W. WALKER, M.D., Cincinnati.

Hip-joint disease is acknowledged by all authors to be, as a rule, a very unsatisfactory disease to treat. Many modes of treatment have been proposed, but the method that is described here seems to me to combine better the different objects of treatment than any other method that has been previously described.

In the first place, the condition of the lining membrane of the joint is one in which, in the first stage, there is an active inflammation present. Again, almost invariably, the child or adult affected with this disease is in a broken down state of health. The majority of children affected are more or less strumous, if this expression can be allowed. The pain on motion of the head of the femur in the acetabulum is sometimes exceedingly acute. The head of the femur moving about in its socket, the acetabular cavity, causes an increase of the inflammation of the lining membrane, no matter whether the head of the bone or the acetablum is primarily affected. The more quiet the limb is kept the less the pain and the less severe the inflammation. In order that the head of the bone and the acetabular cavity may not be in contact and keep up the pain and increase the inflammation, the first point in all proposed forms of treatment has been to apply extension, so as to remove this source of irritation by pulling the head of the bone out of the socket.. The modes of accomplishing this object are very numerous. The most common treatment is that of the application of adhesive straps and weights. This has a number of disadvantages attending its use. In the first place, the child or person to whom the dressing is applied must remain constantly in bed. Not only must the patient remain in bed, but the decubitus must always be a dorsal one. As the treatment must be a prolonged one to be of any advantage to the patient, the confinement becomes almost unbearable.

It is absolutely necessary to have the patient watched very carefully, this necessitates almost daily visits of the physician. The patient, if a child, has a tendency naturally to slide down in bed, and of course the extension is destroyed. The adhesive straps, in order to be of any service, must be firmly applied. The various bony prominences over which they fall are liable to become ulcerated, no matter how carefully they are watched. The patients suffering from this disease are almost invariably patients suffering from some dyscrasia. Fresh air and exercise are essential to a cure of one of these cases.

The apparatus of Dr. Sayre, of New York, in which the patient walks on a perineal strip, does away with some of the objections that the other treatment has. It, however, has it disadvantages. In the first place, the apparatus is very expensive, and as the majority of patients suffering from this disease come from the lower class, this comes to be a very important objection to the apparatus. The extension, when the apparatus is properly applied, is good and patients do improve rapidly at times under its use.

In an incipient case of hip-joint disease what are the essential points of treatment? The hip-joint must have absolute rest. The less the motion in the joint the better it is for the patient. Any apparatus that will accomplish this is a good apparatus in this stage. The head of the femur must be removed from contact with the acetabulum. In other words, the extension must be sufficient to prevent the friction of the head of the femur against the acetabulum. The patient must not be confined to bed, but allowed to take all the fresh air and exercise possible.

By the following treatment it seems to me that all the above objects may be obtained. There is no dressing that can carry out the first object of treatment, namely, the locking of the hip-joint, better than the application of the plaster-of-Paris breeches. The roller bandages thoroughly impregnated with plaster are to be applied as follows: One long external splint made of several layers of plaster is applied, extending from a level with the umbilicus down to the knee-joint. This splint must be very firm. Another splint, very heavy, must be applied along the inner surface of the thigh, extending from the fold above to the knee below. These two splints must be thoroughly adapted to the limb and held in place by circular turns of the plaster roller. After the plaster is hardened the hip-joint will be found to be absolutely locked.

An important point to observe in the application of this dressing, is to have the external splint come up high enough, and to see that the circular bandage which turns around holds it firmly in position. The dressing should always be applied while the patient is standing on the well leg on a stool, allowing the diseased leg to hang, so as to get the advantage of extension.

To accomplish the second part of the treatment, the removal of the head of the femur from the acetabulum, let the patient wear on the well leg a raised shoe. The weight of the limb hanging is then amply sufficient to furnish a requisite amount of extension. With a pair of crutches the patient is able to go about and get all the advantages accruing from plenty of exercise and fresh air.

Only one opportunity has occurred in which the efficiency of the treatment could be tested. The case was of a girl eleven years old, who had been complaining of pain in the hip and knee for about six months. On examination the case was found to be undoubtedly a case of commencing hip-joint trouble. Plaster-of-Paris breeches and a high shoe were ordered and the child wore them for six months, going about on crutches. After an interval of six months the plaster was removed, the shoe was taken off, and the child put to bed for one week. After a week had elapsed she was allowed to get up and walk without anything. She could walk with absolutely no pain, and limped only slightly. This case happened about six months ago, and there has been no return of the trouble yet. From one case of course no opinion can be expressed as to the efficacy of any treatment. It seems to me, however, that this is without doubt the treatment for this trouble; and that if applied in time will do as much if not more than any other form of treatment. The advantages of the treatment are its cheapness, its ease of application, and its efficiency.

Plaster-of-Paris breeches have been used for some time in the treatment of this trouble. The high shoe on the well foot has also been used. The combination of the two is what is claimed in this paper as the best treatment of this much dreaded disease.

RECURRING DISLOCATION OF THE HIP.

By Dr. Charles Anderson, U.S. Army.

That a surgical case may be more interesting than pleasing, and that the surgeon may have considerably more trouble in keeping a dislocated joint reduced than in reducing one, is well illustrated by the following case:

Private Robert W. D., Co. I., Sixth Infantry, was thrown down, striking the left hip.

He felt a severe pain at the time, but got up and walked without a great deal of disability, and continued his work. The next morning at sick-call, he limped very little, though the hip was very tender to manipulation.

The foot was slightly everted. When the patient was upon his back, the limb was a quarter of an inch shorter than the right; but upon flexing the thighs upon the pelvis, *a la* Allis, the left knee sank two and a half inches below the level of the right one.

Sciatic dislocation was diagnosed, and reduction was easily accomplished by manipulation. The patient was put to bed and a ten-pound weight attached to the limb.

The following morning on visiting the hospital, I found upon examining the patient that he had a *dorsal dislocation* of the same hip, with two inches of shortening. This was easily reduced by manipulation, and the weight again attached. On the second morning the dorsal dislocation was again present, and again easily reduced.

No further trouble occurred, and in six weeks the patient returned to duty.

The small amount of force required to cause the dislocations, the ease with which they were reduced, and the comparatively small amount of pain produced by either dislocation or reduction are the most interesting points in the case.

It is unusual, I think, for a dislocation following another (except where caused by manipulation) to differ from the one which precedes it. The third dislocation in this case consequently was not so much of a surprise as the second.

Camp on Snake River, Wyoming Ter.,
December 17th, 1881.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of December 12th, 1881.

BYRON STANTON, M.D., *Chairman pro tem.* **W. H. WENNING, M.D.,** *Secretary.*

DR. REAMY, the president of the Academy, after having called Dr. Stanton to the chair, delivered a highly interesting lecture, with demonstrations on the mannikin, on the

Management of the Perineum during Parturition.

[This lecture will be published entire with illustrations in an early number of the LANCET AND CLINIC, the following being a synopsis by the Secretary]:

DR. THAD. A. REAMY, in delivering a lecture on this subject before the Academy, demonstrated a method of support to the perineum which he had found to prove more advantageous than any other he had heretofore employed. He illustrated his plan upon the French mannikin. He said that as his lecture was directed especially to practitioners he would pass by the anatomy of these parts and simply remind his hearers that the perineum in the female, obstetrically considered, extends from the point of the coccyx to the posterior commissure and measures in width about three inches. It is divided into an anterior and a posterior portion, of which the former is the most apt to rupture. During parturition the muscles composing the perineum flatten out, a glairy mucus is discharged in consequence of stimulation to the reflex nervous system, the whole constituting a physiological process. The question and methods of perineal support has always been a subject of great dispute. Goodell, who wrote most extensively and learnedly on this subject, says that no authentic accounts of any attempts to support the perineum are to be found till the middle of the last century. At the present time, however, the majority of obstetricians favor this assistance so strongly that it requires considerable courage and a great amount of fortitude in any one who condemns this practice. There has always been a difference of opinion as to the kind of support to be given. Some authors recommend the dilatation of the vaginal orifice with two or more fingers, and even the whole hand; others place one or more fingers in the anus and pull the perineum forward; others with the hand in the vagina push the coccyx back; others again place the hand against the perineum, making direct pressure against the child's head. One author (Von Seibold) rubs the skin of the thighs towards the perineum. A not inconsiderable number use a napkin instead of the hand directly on the parts. The length of time this assistance should be given is also different with various authors. While some regard the support as necessary only while the head is about to clear the vulvar orifice, Ramsbotham says that the accoucheur must sit along side of the lying-in woman with his elbow on the bed and his hand constantly against the perineum. Goodell condemns any support *in toto*. Leishmann says that nature is sufficiently able to accomplish all the steps of natural labor unassisted. It might be answered to this that the accoucheur is not needed at all. Playfair favors qualified support.

Before describing his method the speaker would call attention to the appearance of the perineum just before the head passes out. If the woman is placed on her back with the thighs and legs drawn up (as in the lithotomy position) it will be observed that the protruded perineum *is convex in every direction with no depression behind the anal orifice.* This is not the case when she lies on her side; then a transverse gutter is seen near the coccyx. Before the perineum takes the shape as just described it ought not to be touched either with the hand or napkin. What causes the perineum to rupture? Very few woman have congenitally such small genital orifice as to prevent the safe passage of the head. And even the posterior commissure was not made to be torn as a natural result of labor. When, however, the head is delivered before the perineum has had time to distend or when the head does not recede in the intervals of the pains there is danger of laceration; in the latter form the constant pressure on the circulation which renders the parts fragile. In some cases, however, the vaginal orifice is small and unyielding requiring much time and often artificial force to accomplish its dilatation; still it seldom, perhaps never, ruptures during passage of the head, but not infrequently during passage of the shoulders. The failure to recognize this fact is the explanation of many cases of rupture. But when rupture of the vaginal orifice does occur, if the anterior portion of the perineum is preserved, serious consequences seldom follow, because the parts torn are held in such perfect coaptation that union without much deformity may confidently be expected. And even when under such circumstances it does not occur by first intention, but by granulation, cicatricial sources of reflex pain are not nearly so likely to ensue as when the fourchette and anterior portion are torn and left without immediate surgical repair. The preservation of the anterior portion of the perineum from even slight rupture therefore, assumes more importance than is generally given to it. Everyone must have noted how common it is for the practitioner to assert that in his practice slight rupture often occurs, say one-fourth to one-half inch beyond the fourchette; that this is a matter of no moment. But it is a matter of some moment, impairing, as it must do in all cases, the perfect function of the parts in the future experiences of the patient. Every such rupture that can be prevented should be prevented, and most of them, not all, can be prevented.

The speaker believed in perineal support, and he was willing to assume the criticism sure to follow the introduction of any modification of accepted methods. He could not approve of

Goodell's method, save, perhaps, in a few exceptional cases, much as he admires the genius and learning of its author.

Pressure in the anus favors rupture. If a rupture in the fourchette can be prevented, the vaginal orifice will also escape.

The speaker's method was as follows: The woman is placed in the lithotomy position, the accoucheur places a smooth, soft towel around the thighs, holding one side in his hand whilst an assistant holds the other; the front edge lies on a level with the posterior commissure against the distended perineum without a wrinkle. As the two ends gathered in the hands over the gluteal muscle are drawn tightly during a pain, the *linen* perineum as it were, comes in contact with the natural perineum at all points from behind the anal orifice to the posterior commissure, and makes the head hug the pubic arch as it lifts it away from the coccyx. The advantages consist in the unirritating property of the towel and the universal support which it affords to the distended tissue. After a little practice with the method, the pressure made by the towel can be easily regulated to the degree of distension. The degree of perineal bulging can be as perfectly appreciated by the eye of the accoucheur through the towel as though the tissues were fully exposed. Should the head refuse to extend so as to hug the *ligamentum arcuatum* as closely as possible, it can be carried forward by this method most effectually. Should the advance be too rapid, so as to endanger rupture before time for proper distension, by this method it can be delayed almost at will, requiring simply care as to the direction of pressure by the towel. During the whole process the towel must be without a wrinkle over perineal surface, and the anterior border of it must be kept just even with the fourchette. He had by this method delayed birth of the head until the anterior border of the perineum extended far beyond the pubes, thus allowing the occiput to ascend unrestrained, practically enlarging the outlet to a degree of safety. Whereas, in his former practice, he regarded similar cases as presenting unavoidable rupture. He would not, of course, say that all cases can thus be saved. He would freely confess that in a few the vaginal orifice will rupture before yielding—in a few the outlet must rupture at least through the fourchette. In a few even incision must be made—but he had not had the misfortune to encounter such a case since he had adopted this method. And he could not be mistaken in having saved several cases in primipara, which, by any other method which he had hitherto adopted, would have been ruptured.

An objection to the method is the necessity of placing the woman in a position wherein she is more or less exposed in her person; likewise the necessity af two assistants, one to hold each limb of the patient. These objections, however, are not valid—since the nurse and another woman, or the husband, can fill the positions perfectly. And the careful practitioner will in all cases and by any method watch with the eye the perineum during the period of its greatest danger, the subject being a primipara. Moreover, by this method but little exposure need occur above others, provided the abdomen of the patient be well covered; also the limbs; upon the latter, there should always be placed, during labor, full hose.

DISCUSSION.

Dr. Juler opened the discussion on this subject. He said that when he attended the meetings of the Obstetrical Society in London about fifteen years ago the question of supporting the perineum during labor was made the topic of a most lively discussion. Tyler Smith and Graily Hewitt most strongly opposed this doctrine, the latter having published a pamphlet to that effect. While the speaker was a student he had the pleasure several times of witnessing Ramsbotham while delivering a woman, but he never observed this noted obstetrician resting his elbow on the bed and hand against the perineum constantly as quoted by the lecturer of the evening. It is certain that the arguments for and against this support are often evenly balanced and our opinions are apt to be influenced by the writings of different authors. There is no doubt that in many instances a support is unnecessary; that in long labors where the perineum is thinned and flattened and lubricated with a glairy mucus it needs no protection. But in a number of women of a nervous temperament, especially in those who are unaccustomed to bear physical pain, even when the progress of labor is natural, the placing of a napkin or the hands of the obstetrician against the perineum of the lying-in woman will often appease her anxiety and make her believe that something is being done to relieve her.

Some women are so incontrollable that it is sometimes difficult to say which of the pains are natural and which are only feigned. Such persons are frequently influenced by the prognostications of others and at the time of delivery their minds are fixed on some dreadful calamity that is to befall them. The speaker had such a case some time ago where a woman had been told by a fortune-teller that her child was to be born dead. She had this idea firmly fixed in her mind and consequently labored under great nervous excitement. He therefore called in Dr. Reamy, who, according to the method just explained by him, namely, flexing the legs on the thighs and these on the abdomen and a towel firmly stretched across the distended perineum and over the buttocks of the patient, with the ends of this towel held in the hands of the speaker and another assistant, safely delivered the woman by means of the forceps without causing any laceration.

Dr. Wright remarked that the subject of supporting the perineum had been frequently discussed in this city in the different medical societies and that the majority of the physicians here seemed to favor its support. He also believed in supporting the perineum but preferred the hand to the use of a towel. He could not agree with Dr. Reamy that the pressure of the hand cannot support the perineum; on the contrary, the towel is unable to resist the distension of the perineum by the passage of the head. He had always been able to properly support the perineum by the hand and had never used a napkin.

Dr. Cleveland thought that the method was impracticable, as it was difficult to hold the towel so firmly as to give thorough support. The perineum might rupture underneath the towel as well as without it. He would, however, admit that it might prove advantageous in its lifting up the head against the pubis. He had occasion to observe that when the perineum is well supported by the hand, the vaginal orifice seems to be lifted out of the perineum and the head almost rises over the pubes. In the speaker's opinion, however, a rupture was apt to occur as frequently, if not more so, from a passage of the shoulder or hips as the head. Therefore this method would not apply in such cases. If the towel could be held so firmly as to make equable pressure this means would certainly be valuable.

It is an interesting question if this danger of laceration cannot be avoided by placing the patient in the knee-elbow position, especially as this seems to be the most natural position for the passage of the child. In a case once observed by him delivered in this manner it offered these two advantages, (1) the pains were not so violent—as in the interval of pain the head fell back more readily, and (2) the occiput in its exit pressed more firmly against the pubic arch, thereby taking away the pressure against the posterior commissure.

Dr. Dunham said he agreed in the main with the lecturer, but objected to the position of the woman as recommended by him. The frequent cause of rupture is the bulging of the head and the contraction of the ischio-perineal ligaments. If this is correct the flexion of the legs and thighs on the body will put these structures still more on the stretch and thereby facilitate a rupture. To obviate this it was the speaker's plan to put the lower extremities on a level with the body. In his earlier practice he observed rupture of the perineum when its prevention was endeavored by all methods, but since instituting the above plan he had not met with a single case. Recently he had a primipara, seventeen years of age, in which he had to resort to instrumental delivery and although the distension was so great that rupture was thought inevitable, when the limbs were stretched the head passed out safely, not even tearing the fourchette.

Dr. Stanton thought that the method introduced by Dr. Reamy had much in its favor. The old methods undoubtedly are often productive of more harm than good and ought to be abandoned. It is possible when traction is made on the ends of a towel over the nates an equable pressure against the perineum may be secured which will prevent any laceration.

Dr. Gustav Zinke remarked that the new method did seem efficient and practicable, but whether it would prove a method superior to those already in use the future must decide. It was claimed by the essayist that the use of the hand for the support of the perineum might be sufficient when employed with experience and skill; to him, the speaker, it appeared as if the same was true of the new method but, probably, many would be disinclined to even try it, because it seems more complicated; for at least one assistant is needed and the woman must be more or less exposed—all of which is not necessary when the hand alone is used. The speaker was disposed to look with favor upon this new method because it comes from experienced quarters, but feared that it would be seriously objected to by many for the reasons mentioned, yet it should be thoroughly tried by every one, as requested by the essayist, before judgment is pronounced for or against it. The whole subject as it presented itself to the speaker was more a question of preventing a sudden and violent escape of the head through the vulva—thus admitting of a more gradual distention of the perineum—rather than the production of an actual support for the same. In all cases when the head descended slowly with each expulsive pain, the parts were gradually prepared for the extensive dilatation necessary for the passage of the child and a rupture of the perineum then rarely took place. This was fully and satisfactorily illustrated when the woman is delivered in the knee-elbow position, when with each pain the perineum is slowly stretched and again given rest during the intervals. He, of course, had reference only to cases of normal labor. In his obstetric practice it had but seldom been necessary to interfere or assist; and those cases of normal labor in which rupture of the perineum did occur were either in illy-developed women of feeble health, or in well built, healthy women who pass rapidly through the various stages of labor, not allowing sufficient time for the proper amount of dilatation of the perineum. Those belonging to the latter, were the cases in which the most good may be done by giving the perineum support by any of the means already mentioned.

Dr. Reamy in conclusion answered the several objections made against his method. First, he remarked, as to the position of the patient, objection by Dr. Dunham. There are two points of danger of rupture of the perineum; these are (1) a constricting ring about one-half of an inch above the commissure. It consists of the constrictor cunni, transversus ani, and levator ani; but none of these muscles are put on the stretch by this (lithotomy) position. (2) The next point is the posterior commissure—fourchette; but this is also not put on the stretch. In fact, the flexion of the thighs and legs would even give support to the perineum, thereby preventing rupture, which is not obviated by the extension of the limb, as advocated by one of the speakers.

For the next objection, namely, the use of the towel, he would reply that it is possible to support the perineum at that particular point, and carry the head forward toward the pubic arch, but the hand cannot cover the perineum at every point alike. This, a towel stretched over the distended parts and held over the thighs, as described by him, will do. It is a simple fact, that if two pieces of cloth are held in perfect coaptation, one lying closely on the other, the inner piece cannot tear unless the outer is also torn, and if any single piece should tear, the outer will rupture first. This is the relation of the perineum to the smoothly stretched towel over it.

The objection is urged that the points of attachment for the two pieces of cloth (as illustrated by the speaker), not being upon the same level, the claim that upon pressure the outer must rupture first is not true; having the same attachment it would be true. Dr. Reamy answered that the criticism is not valid, against this means for support, for the reason that the convex exterior perineal surface, over which the towel is stretched, permits the ends of the towel to be held at a different level with the lateral perineal borders, and at the same time at the point of exposure or strain upon the perineum the surfaces of the structure and the towel are in perfect coaptation, and the resistance to the head pressure by the two structures in identically the same direction. The criticism is invalid, as it assumes two flat surfaces.

The speaker had in several cases held one end of the towel with one hand and delivered by the forceps with the other, an assistant holding the other end of the towel. He had found this quite convenient.

CINCINNATI MEDICAL SOCIETY.

Meeting of December 21, 1881.

GUSTAV BRÜHL, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

DR. DAVY read notes of the following case: Lillie Adams, aged four and one-half years had been complaining on June 9th and 10th with diarrhœa; thin offensive stools which became checked spontaneously on the 11th. He was called on the afternoon of the latter day and found her with a pulse of 120 per minute, temperature of 101°, restlessness, and fauces covered with white or whitish gray patches. The throat was swabbed with strong Monsel's solution and brandy ordered internally. June 12th. She had passed a restless night, with stetorous breathing during sleep; whitish coating extended; pulse at 1:30 p.m., 140 per minute; great restlessness and tossing. Ordered a dessertspoonful of brandy every two hours; swabbing continued. June 13th. False membrane of throat was easily detached; surface underneath red and swollen; pulse at 6:30 p.m., 140 per minute; temperature 101·5°; breath very offensive; tongue brown and dry. She was not so restless as on the day before, drank less water, took a swallow of milk, and slept three hours during the afternoon. Bowels moved the night previous and she had voided no urine since. Treatment continued. June 14th. An examination of the urine revealed a copious precipitate of urate of ammonia along with fibrillated masses resembling tyrosin and fragments of casts. Urine was frothy on agitation, and gave a slight cloud on boiling. It was very scanty. Pulse still frequent; breathing somewhat easier; breath very offensive; patient exceedingly restless. She drinks little, eats nothing, and the deposit in throat appears less thick. June 15th. She had two stools yesterday afternoon from a dose of oil, and rested better at night. Her throat is very red but not so clogged up with deposit; pulse frequent; breath very offensive. Takes two drachms of brandy every two hours. June 17th. Slept better last night, and had several stools without taking medicine. Throat less swollen and almost free from white deposit. Treatment continued. June 19th. White deposit gone; throat very red; breath less putrid; tongue cleaning off; pulse 85: breathes quietly when asleep; has retching with epistaxis after swabbing. Ordered three grains citrate of iron every four hours. June 21st. Grave epistaxis during last two days; urine suppressed; restless; temperature at 6:30 p.m. 98·4°; pulse 75; extremities cold. At this time, six or eight purpuric spots were noticed on the body and face, and along with the persistent epistaxis were bloody stools. She became delirious and died on the night of the 21st. There was no post-mortem examination.

Selections.

MEDICINE.

PROGNOSIS AND TREATMENT OF CHRONIC DISEASES OF THE CHEST IN RELATION TO MODERN PATHOLOGY.—As I am speaking of pure air, this is, perhaps, a fitting place to dwell for a moment on what is called change of air, and the influence of climate. I must here deal only with the general views arising out of our pathological knowledge.

First, while degenerative processes which we have been considering are going on in the lung, patients should not be allowed to travel at all. Do not send the feverish abroad; for what is fever? The loading of the blood with the detritis or degenerative processes. Do we find that patients gain in weight, improve in strength, or progress at all while fever is going on? Certainly not. Our examination into the real meaning of high temperature is that it means, or is correlative with, waste—progressive local disease—nature's efforts at clearing out and clearing off morbid material not completed. Why should such persons be sent to change of air? Will any climate stop such processes as are pouring septic matter into their blood? We say no; and add, such had better be in their own homes, with home comforts, surrounded by the accustomed faces, and the well-considered provision for small wants. Locomotion would in itself be an evil—fancy the cabin of the steamer; the journey prolonged through the night to reach the favored climate; the contracted cubic space of the railway carriage—to a man whose temperature is 102°, and who is undergoing the *malaise* inseparable from fever.

When local morbid processes have ceased (as we know, from want of further material on which to act), the system, well-nigh exhausted, may still be capable of revival. The moment wasting ceases and nutrition revives, that is the time for removal, for getting into sunshine, for breathing purer, dry, bracing air; and then only should a patient be removed. For there is no climate, just as there is no specific, which can cure this "consumption" of many forms; but there are influences which can second reviving nature, stimulate enfeebled digestive powers, and arouse vital energy. Among these is the influence of change—any change—or locality; but, above all, to countries where winter is short, and the sun shines on most days, so that the sick man can be out for a part at least of every day.

Fashion, guided by medical knowledge, has wisely of late set itself against sending much enfeebled patients to warm, damp, relaxing climates; and Madeira has been abandoned for the Engadine. The usual results and mistakes have occurred; some have benefitted, and some have (from want of selection on which I have dwelt) perished miserably on the mountain-side, who should never have left England. But, on the whole, we must say, as the result of our inquiry as to how far modern pathology has assisted us in treatment, that all which tends to lung-expansion and improved respiratory movements, all which promotes a healthy circulation in the parts of the lung surrounding defined cavities, all which tends to improve the tone, and therefore to lessen the secretion from the bronchial membrane, which forms so large a part of phthisis, is to be preferred for our patient; and, therefore, bracing, pure, upland air is preferable to low, damp, ill-drained localities; and, as heat and moisture promote secretion and relax mucous membranes, hot and damp climates are not so suitable.

Again, the digestive processes are best strengthened in dry and rather cold air, and on them depends our patient's possibility of regaining flesh and repairing waste. It is well known that sea-air is very favorable in promoting all these requirements.

I make a summary of these views, on which I have acted for many years.

Persons ought not to travel at all with feverish symptoms; with secondary complications, as diarrhœa; with a large amount of local disease in any stage; with both lungs diseased; with poor digestion and greatly lowered nutrition; or in such a state of weakness or emaciation as to require home comforts, peculiar beds or chair, or varieties of invalid cookery.

A case in the first stage, already chronic does for travelling about, with frequent change of residence. The complication with bronchitis or asthma is generally much benefitted.

Chronic single cavity, with retraction of walls accomplished or proceeding, is favorable for removal to a dry, bracing locality, if the hæmoptysical element be wanting in the case.

That form of diffused disease in the lung which I have described—without much dullness or signs of massing of disease, with pretty large chest, and with moderate emaciation—generally does well on a sea-voyage.

I need not occupy much of your time, if you have followed our investigations, with the meaning of the several varieties of phthisis, by an enquiry whether any specific remedy for the disease is likely to be found.

A specific is an agent which meets some definite form of disease, and opposes its progress, or even effects its destruction. But have we in phthisis any such defined disorder? Examine it as we have done here, and it is resolvable into many forms, really differing in pathological results and in symptoms, in progress, and in termination. Its history is made up of many progressive changes, and variety in mode is its very character. Such variety eludes the action of any remedy; and remedies of efficacy cannot be presumed to address themselves to multiform phenomena, and certainly cannot meet in succession and overcome those morbid changes which are the result of mixed chemical and vital actions, progressively increasing and changing their mode of destructiveness as the disease advances. We have been tracing the destructiveness of phthisis to a kind of degeneration which the morbid products undergo in the lung; to the nature of the lung-impaction, its form, limit, and distribution; and to the amount of suffering which the system undergoes from fever, waste, and secondary infections. To these influences are found added such agencies as hereditary features, age, sex, temperament, and the complications with other disorders. All these were described as essential considerations in estimating the gravity of any case of phthisis. But is not this summary of chronic morbid products in the lung—some tending to death and degeneration, others to more rapid disintegration, and others again to contractile results in the tissues—a picture, not of one, but of many disorders, which, while we have stamped them with a common name, have diverging tendencies and an endless pathological variety?

To meet all this, we are to seek for a single remedy, if we are to search for a specific which shall so directly address itself to the morbid state that every progressive step which we know to constitute the history of phthisis shall cease. Again, if there be (as some suppose) a constitutional cause, inherited or acquired, which leads up to and decides the character of the local affection, this cause, involving deep-seated errors in the most vital processes of sanguification and nerve-power, can scarcely be supposed to be within the reach of a single agent.

My purpose here is to give expression to general views of treatment, gathered from our more recent pathological knowledge; and I conclude that we are in these days going farther away from "constitutions" and "specifics," and drawing nearer to the treatment which shall address itself to diseased local condition. The tendency of the day to seize that which is tangible, and susceptible of proof by physical laws is swaying the practice of medicine and surgery, as it is swaying our views of the whole universe and of man himself. In this way we may, indeed, find much error and many fallacies; but, if it in the least assist us to practical views of treatment, we are bound to accept the teaching of this school, provided that it remain true to its own profession of only holding that which is susceptible of physical proof. Experiment first, and afterwards theory.

I must recommend, therefore, a thoughtful attention in practice to the local relief of the lung. Let us treat congestions, when they occur by local depletion; let us not be in a hurry to stop a moderate hæmoptysis by styptics, while the flow of blood is relieving an overloaded lung. See what relief a bloodletting gives to an engorged right side of the heart with secondary congestion of lung, with hæmoptysis. We do not give gallic acid and ergot here, because the overflow is nature's mode of relieving the engorged organ. No more should we treat moderate congestive hæmoptysis by astringents. Let us treat cavities in the lung on the same views that the surgeon treats abscesses with insufficient exit for matter. Let us drain them, and then dry them up, and during this process support our patient by rest and nutrients.

In speaking of rest in chronic chest-disease, we should remember the constant movements of the lung and of the chest. It is this feature which makes an essential difference between the lung and any other part of the body excepting the heart. It is always moving. It is its incessant movement which makes the surgical treatment difficult. The surgeon can rest a diseased joint; but he cannot rest a diseased lung. While, however, it is impossible to stop all movements of the chest, it is quite possible to control them; and, in certain conditions of disease, the strapping the lower ribs, so as to limit their motion in breathing, is a great relief to the patient, and gives time for reparative processes. Thus, in pneumothorax, it is a great relief to the suffering of the patient. In pleuritic pain, so common in the lateral and inferior parts of the chest, it will often at once enable the patient to breathe, and especially to cough, without distress. During certain periods also of disintegrative process and of cavity-formation, strapping the side is useful; and again in chronic contracting fibroid alterations, where to fix the side is to imitate nature. It is also useful after operations of tapping either the lung or the pleura.

If you ask me whether, after some experience of the treatment of chronic lung disease, I am of opinion that some forms are curable and cured; whether some varieties have had increased prolongation conferred on them by treatment; and, on the whole, whether the great load of consumption has been somewhat lightened of its pressure on the community in my time,—I answer frankly "Yes" to all these questions. Rapid forms of disease are still rapid and uncontrollable; acute tuberculosis is not amenable to any treatment; and so of the congestive form which I have described. But the chronic varieties of phthisis are much more prolonged in our day, because they are no longer shut up in hot rooms and denied fresh air and exercise; neither do they live so much surrounded by their own emanations: and the whole habits of society have improved their condition along with that of all others. The requirements of health are more considered; and, with a lessened mortality per thousand, man lives longer. The use of oil and nutrient medicines has added many years—I know not how many—to the phthisical life; but so have exposure to air, increased facilities for travel, and increased personal cleanliness. We are not degenerating in this generation. And let it be said, once for all, that phthisis is not an English disease; and that, with all its disagreeableness, I am satisfied that the subjects of phthisis unable, for want of means, to escape from it, live as long here as in any country.

Yet, withal I know, as we all know, how much remains to be done; how much patient investigation—yes, even now—when we seem to have exhausted all microscopical and pathological inquiries, when we appear to know the whole story of the disease, and have accumulated a great literature about phthisis alone.

Again, if you ask me whether I think that this later German pathology, which seems so clear and has somewhat displaced the French pathology, will itself be replaced by-and-bye by some nearer approach to truth, I say surely "Yes." But in the meantime let us live by the best light we have; and, above all, if there be any practical truth, anything which can save a life or lessen a symptom of disease, let us seize hold of that and appropriate it, whether it contradict our own theory or not. It is by this light that I regard the views which dwell most on local disease and local remedies. This idea of localization may be be the key, as I believe, to much valuable treatment. * * * .—Extract from Harveian Lectures by Jas. E. Pollock, M.D , F.R.C.P., *British Medical Journal.*

ALTERATIONS OF THE NERVES IN CHRONIC RHEUMATISM.—At the session of the Société de Biologie, April 2d (rep. in *Le Progès Médical*), MM. Leloir and Dejerine stated that they had found in a case of muscular rheumatism with considerable muscular atrophy and rapid eschars, the nerve adjacent to the eschars affected with atrophic parenchymatous neuritis. They are of the opinion that the nervous alteration was antecedent to the eschar, and see the proof of this in the rapidity of the alteration of the tissues.

DISORDERS OF THE BRAIN IN DYSPEPSIA.—At the session of the Société de Biologie, May 21 (rep. in *Le Progrès Médical*, No. 22), M. Leven made a communication on the brain troubles in dyspepsia. He had a hundred observations that demonstrated to him the existence in dyspepsia of cerebral symptoms not, so far, noticed, for example, cerebral commotion. He had seen patients struck suddenly in the street with veritable apoplectic attacks, lasting ten minutes or a quarter of an hour; they were supposed to be epileptics, but were in reality only dyspeptics, in whom the cerebral accidents subsided completely as soon as the digestive functions were reëstablished. In the dyspeptics the intelligence remains intact; there is never any mental alienation; certain cerebral faculties may be altered or obscured, so to speak, but the Ego remains entire, and the patient controls himself in his disorder. The disorder of the higher mental faculties, the enfeeblement of the will, of the activity, of the memory, of the power of speech, are easily observed. Some patients are incapable of determination; they need an effort to perform even ordinarily instinctive actions, such as to recover an object they have accidentally dropped; in them the memory is defective and speech difficult, especially after eating. A general sadness overcomes them, everything appears dark; but, unlike the subjects of hysteria, they generally present a cutaneous hyperæsthesia, but never anæsthesia.

In the discussion of M. Leven's communication M. Laborde took some exception to its conclusions. Certainly he did not deny the influence of disorders of the stomach upon the brain, and no one cares to discredit the symptoms of anæmia of dyspeptic origin; but it may be that M. Leven has made a slightly forced interpretation of his results.

There are many persons in whom the digestive disorder is dependent upon nervous disease, and it is straining a point somewhat to seek to find in the stomach the point of departure of all the phenomena. He had had under his care a dyspeptic woman, who had simultaneous delirious ideas of fear of being bitten by a mad dog, which soon increased to the dread of contact with any one who had touched a dog; finally it extended to fear of contamination by aliments, and at last the patient became almost entirely insane.

M. Leven said, in reply, that that case was simply one of insanity, while he spoke only of hypochondriacs, who, however, they are spoken of by alienists and others who have so far studied them so ill, are not demented; they possess their intelligence and ought not to be ranked with lunatics.

M. Laborde asked, then, what proof could be given that certain hypochondriacs were not insane. That a well-directed dietary course might improve them is possible, but that is no reason for saying that the stomach is the point of departure for all the symptoms. It is necessary to observe a patient a long time to see a mental affection, partial in its beginning, degenerate into dementia.—*Journal of Nervous and Mental Disease.*

TREATMENT OF EXCESSIVE SWEATING OF THE FEET. — Kaposi gives in his book, Hebra's method of cure for this disagreeable affection. It consists in the use of Hebra's ointment, which is made of one part of litharge to four parts of olive oil, wihich are to be gently heated and mixed.

The ointment spread on cloth is then applied to the feet. The application is to be renewed once a day for 10—12 days, at the end of which time the epidermis will have been macerated and removed in sheets, after which new epidermis will form to take the place of that removed, and the hyperidrosis will be cured. For some time after it is well to powder the feet well in order to prevent a return of the trouble.

DEVELOPMENT OF THE CRANIAL NERVES.— M. Mathias Duval reported to the Société de Biologie, April 2 (abstr. in *Le Progrès Médical*), that he had recently had an opportunity to examine the brain of a lamb fœtus at term, which was subject to an arrest of development. It was an *otocephale*; the head, reduced to the middle and inner ears, appeared to have been severed by a ligature above the basilar process. In a section of the encephalic stump, at the level of the floor of the fourth ventricle, he recognized the nucleus of origin, the eminentia teres, and the exit of the facial nerve, as well as the origin of the external motor oculi. The nucleus of origin of the trigeminus, situated in the same plane, and the section of which, in the form of a horseshoe, is commonly easy to recognize, was absolutely invisible. What is the explanation of this phenomenon? M. Duval finds it in the study of the development of the spinal roots.

We are aware, in fact, that in the embryo, before the closure of the spinal canal, we observe rising from its anterior portion two prolongations, the origins of the anterior roots. Later, when the canal is closed, we see leaving its posterior region two lateral prolongations composed of nervoso-epithelial colonies. These diverticula become the spinal ganglia, but they first become pediculated, then they separate themselves completely from the medullary canal, and it is only still later that it sends toward the cord on one side and towards the periphery on the other the prolongations that form the sensory nerve roots.

Thus, as regards the trigeminus, the medullary portion should start from the ganglia of Gasser, thus explaining why no trace of it was found in the medulla.—*Journal of Nervous and Mental Disease.*

DIPHTHERITIC PARALYSIS WITHOUT AFFECTION OF THE THROAT.—Boissarie describes in the *Gaz. Hebdom.*, 1881, No. 20 and 21, an epidemic of diphtheria which showed cases: 1, of suddenly occurring paralysis without previous affection of the throat or deposit anywhere upon its surface—paralysis which proved fatal in some cases in a few hours or days; 2, of paralysis which was the first symptom to be followed later by a diphtheritic angina; 3, of throat affections in typical course without previous or subsequent paralysis. The author himself was a victim of the first category of cases, the occurrence of a number of which excited much dismay in the community, until their nature was definitely ascertained.

Sample cases are described at length, and the paralytic sine angina cases are compared to the cases of scarlatina sine angina, or of scarlatina anginosa sine eruptione. J.T.W.

BORACIC ACID AS AN ANTISEPTIC IN CERTAIN SKIN AFFECTIONS.—The last few years has witnessed the introduction into general medical as well as more strictly surgical practice of a variety of antiseptic substances. In many instances the choice of an antiseptic is not a matter of much importance, but in others the employment of an odorless and non-irritating substance is of some consequence. In the latter respect I have found it convenient to use boracic acid in certain skin affections, and in the following paper I propose to adduce some instances in illustration of its value.

In the *British Medical Journal* for Sept. 18th, 1880, I described a method of treatment by which persons suffering from that very great affliction, an offensive odor from the feet, can get rid at once and permanently of the smell. The treatment was based on the proof (see *Proceedings of* *the Royal Society*, No. 205, 1880) that the smell is caused by the development of a bacterium (*Bacterium fœtidum*) in the mixture of sweat and serosity with which the stockings and boots are in such cases soaked. By wearing stockings and cork soles saturated with boracic acid the smell is at once annihilated.

I have reason to know that the method was found efficacious in the hands of others who had adopted it, but as its success cannot, I believe, be too widely known, I am induced to publish additional evidence of its value. The two following cases exemplify the rapidity of the cure.

A gentleman who consulted me by letter gave this account of his case:

"My age is twenty-one, and for four or five years I have suffered very much from profuse perspiration of the feet. It continues, more or less, all the year round, being worse during summer. After taking exercise, on taking off my shoes (I find them cooler than boots) my socks are saturated with perspiration, more especially at the heels and toes, the hollow of the foot being nearly dry.

"On taking off my shoes at night, a very offensive odor emanates, my socks being as wet as if they had been taken out of water."

The smell and profuse perspiration persisted in spite of frequent changes of socks, and he had had to leave a situation in London and go home, for no other reason than this condition of his feet.

During this time he had tried various treatment, such as salt water, alum, Fuller's earth, zinc ointment, hot and cold water baths, etc., in vain.

I recommended him to try the boracic acid treatment. The result was a complete success. The smell was at once got rid of, and, what is of some interest to note, within a short time under the use of the acid the perspiration was greatly abated.

The next instance is that of a servant girl in whose case "all sorts of things," amongst them alum, vingear, salt in water, powdered chalk, charcoal sprinkled in the stockings, etc., had been tried without success, and may be reported in the words of her employer, who at my request has sent me the following statement:

"A girl, aged fourteen years, entered our service of 1879. In the course of the following summer her feet perspired very profusely, and emitted a most disagreeble smell, which gradually became so offensive that no part of the house where the girl had occasion to be was free from it, and her fellow servant could not take her meals near her. After a course of treatment with boracic acid recommended by Dr. Thin, her feet have been completely cured, and now only occasionally, and by way of precaution in hot weather, she uses the acid to prevent the possibility of the offensive smell recurring."

That the disappearance of the smell should be coincident with the use of boracic acid is intelligible, and only what was to be expected. I anticipated the result before I verified it by experiment. That the perspiration should be lessened in quantity is however a very different thing, and the explanation is not on the surface. There seems little doubt of the fact. The patient in Case I. specially noticed this effect of the treatment, and I had an opportunity of verifying a like result in another patient treated two years ago. In this patient, under the use of the acid, the tendency to profuse perspiration gradually diminished, and now has completely disappeared. It would seem as if the application of a saturated aqueous solution of boracic acid to the epidermis had some effect on the amount of sweat poured out. I am inclined to suppose that this results from some change in the horny layer of the epidermis. In the case of the last patient to which I have just referred, the epidermis of the soles of the feet became harder than usual, and at some parts developed into a thick, horny crust. This condition of the epidermis, there is no doubt, was produced by the boracic acid solution.

There is a certain class of cases in which an ointment of boracic acid is exceedingly useful. The apprehensive watchfulness of a patient who was recently under my care has led to what I believe to be a great improvement in the preparation of this ointment.

The young man to whom I have alluded was suffering from a scrofulous sore, following abscess, in a gland, and I prescribed an application of boracic ointment. He used several pots of ointment, and was dissatisfied at finding that the ointment supplied was not the homogeneous mass that he expected it to be. He chanced to send his prescriptions to be made up by Messrs. Savory and Moore, and I called on them in reference to the mode of preparing the ointment, one by Mr. Liste and one devised by themselves. Samples prepared by both formulæ had been supplied to my patient, and neither of them seemed to him or to me, nor indeed to Messrs. Savory and Moore, to be completely satisfactory. The effect of this was that those gentlemen were fortunately stimulated to consider whether a better ointment could not be prepared, a problem that was soon solved by Mr. Brownen, the analytical chemist of the firm, who in a few days submitted to me a cream-like ointment of perfect consistence. For various conditions of ulceration this ointment will be found of value. Messrs. Savory and Moore have been so good as to favor me with the following communication regarding its preparation:

"The peculiar physical condition of boracic acid renders it extremely difficult to reduce the thin sharp-edged crystalline plates to such an impalpable powder as would be unobjectionable in an ointment. This difficulty led us to experiment with the solvents and solutions of boric acid, and we found that neither fatty substances or vaseline would dissolve a sufficiency as to render the combination of medical value.

"As glycerine is a good solvent of boric acid, and not so objectionable as alcohol, etc., we prepared a solution of boric acid in glycerine and incorporated it with a fatty basis of white wax and almond oil. This gave us a soft homogeneous cream, free from all irritating crystalline plates of crystal and quite permanent.

"Our experiments with vaseline were not so satisfactory, as the glycerine showed a tendency to separate from the mineral fat, and seemed not so ready of combination as with the wax and oil.

"The ointment is practically a glycerine cream, and resembles cold cream rather than an ointment. It might, however, be called 'ointment' or 'cream' of boric acid, and perfumed if thought necessary."

As an example of the efficacy of this ointment, or cream, in superficial affections produced by what may be loosely but sufficiently accurately for my purpose described as "bad action," I will give the history of an illustrative case.

A young man, whilst on a walking tour, found that some blisters appeared on the dorsum of one foot, which he at first attributed to his boots being too large. In spite of care and ordinary precautions the excoriated surface became worse. When I saw him he was so lame that he could only walk with great difficulty. The foot was much swollen. The dorsum was red, tense, and painful, and covered with broken bullæ, the remains of epidermis on the raw surfaces being of a greenish-black color. The pain extended up the whole limb, and a number of glands both above and below Poupart's ligament were swollen and painful. I prescribed perfect rest, and that the dorsum of the foot should be kept smeared thickly with boracic ointment. In twenty-four hours the œdema and erythema had much diminished, and the pain had almost entirely abated. The enlarged glands had ceased to be painful, and had diminished in size. The improvement went on so rapidly that within a few days he was able to come to my consulting-room and report himself almost well.

Six weeks afterwards a similar inflammation attacked the other foot, and at this time, the man being of sedentary habits, there was no question of the irritation being produced by the boot, it was attributed to a dye in the stocking. He had worn the same stockings when on the walking tour. They colored water green, and this suggested to my patient that the stockings were dyed by some poisonous substance.[1]

He afterwards informed me that a free use of the same ointment and a couple of day's rest sufficed to effect a cure.—George Thin, M.D., in *The Practitioner*.

STATISTICS CONCERNING PERTUSSIS. — Dr. Szabo (*Pest Med. Chirurg. Presse*) says that during the past thirty-five years, 165,998 walking cases were treated at the childrens' dispensary, and that of these, 4,181 (25 per cent) suffered from whooping-cough. On this material he bases his statistical studies.

The greatest number of these patients with pertussis (48.68 per cent) were under two years of age; and the majority of these (63 per cent) were betweeen six and one year old. It was also found that the cases were far more frequent in the summer and rarest in the autumn months.

At all ages, the female sex was most numerous, as has already been mentioned by Biermer.

There did not appear to be any special predispositions to the disease, but children of all ages exposed to the infection, exhibited great susceptibility to it. He denied the assertions of Meissner and Wimmer that deaf and blind children possess an immunity from it, and explains its rarer occurrence among them to the fact that they are generally less exposed to epidemic influences.

Among the complications he found those of the lungs (capillary bronchitis), bronchial catarrh and emphysema more frequent in early life. The younger the patient, the more liable to these. Of circulatory affections, there are quite a number. After œdema of various organs, follow in frequency hemorrhages of the conjunctiva and purpura hemorrhagica. Twenty-seven umbilical and eleven inguinal herniæ were noted as produced by the cough. Various complications of the nervous system were also observed.

Other infectious diseases were sometimes concurrent with pertussis, measles nineteen times, varicella eleven times, scarlet fever twice, and variola once. Even these few observations suffice to disprove the assertion that measles and scarlatina protect the patient against pertussis.

The statistics of mortality are not, of course, so valuable in connection with dispensary as in hospital practice.—*St. Petersburger Med. Wochenschrift*, No. 49, 1881.

OBESITY: ITS CAUSES AND CURE. — Dr. de Saint-Germain has recently given a lecture on obesity at the Hospital for Sick Children in Paris. This lecture is reported in *L'Union Médicale* for November 29th, 1881, *et seq.*, and will form part of a forthcoming work, *Les Malformations et leur Thérapeutique*. M. de Saint-Germain commenced his lecture by remarking that, although this subject, so far as he knows, has never been treated in works on orthopædics, he is of opinion that it is included in the study of the anomalies or malformations which are the object of orthopædic surgery. Obesity is also an obstacle to the application of many orthopædic methods, and is cured by the adjuvant methods of orthopædics, by hygiene and gymnastic exercises. The history of obesity considered as a disease was commenced by Hippocrates, and has been continued up to the present time by a large number of publications of various kinds.

Dr. Sedam Worthington, in the new edition, published in 1878, of his Paris inaugural thesis (1875), has given a very copious bibliography of works on obesity. His thesis, which is full of valuable information of all kinds, is, in its amended form, a thorough theoretical and practical library of everything relating to obesity.

M. de Saint-Germain then gives a sketch of the present state of pathological knowledge in relation to obesity. Obesity, he says, is a disease of the cellulo-adipose tissue. It is characterised by a morbid accumulation of fat on those points of the animal economy where it is normally deposited. The cellular tissue under the skin, which gives a comely roundness to the form and that condition of plumpness so generally admired, may, in becoming infiltrated with much fat, engender the characteristic deformity of certain obese individuals. Phenomena of compression from without inwards are then developed in certain regions, and are added to other troubles produced by internal fat, so as to bring on serious disease; it is in this way that pressure on the pneumogastric nerves in the neck and in the mediastinum produces, at the same time, obstruction of the lungs, palpitation of the heart, and dyspepsia. At the same time, the hypertrophy of the intrapericardiac or cardiac adipose parts brings on fatty overloading of the heart and asystolism. Nevertheless, according to Robin, the circulatory area becomes increased to suffice for the nutrition of the excess of adipose tissue, and there is multiplication, or at least elongation, of the capillaries. The demand for red corpuscles increases when the blood-forming function is attacked in all its factors at once; anæmia with deficiency of red corpuscles ensues. The abdominal viscera are twisted or compressed by the omentum and the mesentery, their invasion by fat being the starting-point for the obese belly. They easily become congested. Finally, the too little recognized increase of fat in the track of the artery of the vas deferens and the veins of the spermatic cord may, Dr. de Saint-Germain believes, play an important part in the production of the well-known sexual apathy of obese persons. It is a certain fact, that the fat which accumulates on the sides of the umbilical ring has some share in the production of umbilical hernia, which is a very serious disease in obese persons, especially when it is strangulated, which only too frequently occurs.

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[1] The dye of a blue shirt which an American gentleman wore in crossing the Atlantic, had produced so much irritation on his right arm before he arrived in Liverpool, that when he called to consult me a few days afterwards in London, I found his forearm the seat of an acute eczema. The skin had been much stained with the dye.

The pathological anatomy of obesity is set forth by Dupuytren (*Journal de Corvisart*), Russell (*British Medical Journal*), Schæffer, and Aran. The most noticeable point in the necropsis was the condition of the heart. In Aran's typical necropsy, the hypertrophied heart was quadrupled in size; the cardiac cavities were filled with a blackish jelly-like substance; the orifices and valves were perfectly healthy. In the sixty-nine authentic reports collected by Chambers, of necropsies of obese patients, the heart was examined in fifty seven instances. In fifty necropsies out of the fifty-seven, serious cardiac lesion was found; hypertrophy without dilatation in sixteen cases; hypertrophy with dilatation in eight instances; dilatation alone twenty-six times; atrophy alone eleven times. In sixteen cases fatty overloading of the heart was found.

M. de Saint-Germain finds that one predominant question in the etiology of obesity, is to determine whether it is hereditary; and he believes that, under certain reservations indicated further on, it is extremely probable that such is the case. It is sometimes congenital, and may cause dystocia. M. de Saint-Germain has himself, at the Cochin Maternity Hospital in Paris, used, and has also seen M. Tarnier use, the forceps for the extraction of infants weighing ten pounds and a quarter, and eleven pounds. Out of the eighty-six cases of obesity noted by Prof. Charles Bouchard, thirty-one showed an hereditary tendency, either in a direct, collateral, ascending or descending line. Out of the thirty-eight cases noted by Chambers, hereditary obesity was found twenty-two times in a direct line, and seven times in the collateral line. The connection of obesity with the diatheses, now demonstrated, permits the multiplication of the demonstrations of heredity, and, so to speak, admits the existence of latent heredity (*l'hérédité larvée*); thus in M. Charles Bouchard's eighty-five cases, besides the thirty-one cases of heredity, or concurrently with that heredity, the observer noted sixty-three times rheumatism, gout, gravel, asthma, hemicrania, and hereditary or collateral scrofula.

Women are more subject to obesity than men. Amongst M. Charles Bouchard's cases, there were sixty-two women to twenty-four men; and eight women to four men in the cases of M. Teissier of Lyons. Chambers and Sedam Worthington's lists show an equal number of men and women; Mr. Wadd reckons more men than women. Women are more inclined to obesity than men, by the softness of their tissues and the usual sedentary nature of their lives. Amongst the working classes, the husband who gets his meals away from home, and is much better nourished than his wife, is not always the fatter of the two. Alcoholic drinks would fatten him, but the hard work which he is obliged to do from time to time establishes the equilibrium.

With regard to age, instances of obesity are found from an early age; according to Bouchard, at two years of age; to Teissier, at nine; to Chambers, in four cases out of thirty-eight, obesity showed itself at five years of age in two cases, at from five to ten years, in two out of ten at fifteen years of age, in seven out of fifteen at twenty, in four from twenty to twenty-five, and in thirteen out of twenty-five at thirty years of age. We here meet with an obesity of young persons which seems to have intimate relations with heredity, and which has often been considered as the more serious. Dr. Philbert, who turns his attention specially to the cure of obesity by the mineral waters of Brides, wished that the appellation "polysarcia" should be reserved for the most serious form of obesity—that which supervenes during adolescence.

The best known efficient causes of obesity are the taking of a large quantity of food, insufficient exercise, and consequently insufficient elimination, the taking of too large quantities of wine and other alcoholic liquors, especially beer, and too much sleep. Dr. de Saint-Germain points out some less generally recognized causes of obesity; convalescence from severe attacks of fever, the too great prolongation of the menstrual flux, and lengthened mercurial treatment. Wadd considers mercury as the heroic remedy for leanness, *modus pinguefaciendi*, Liégeois, surgeon to the Hospital du Midi in Paris, maintained the same opinion in the Société de Chirurgie, where Duprez had commenced an active campaign against mercurial medication. Liégeois declared that, during his long course of practice, he had always seen syphilitic patients gain fat and improve in appearance under the influence of mercury. Boerhaave has recorded a case of obesity which promptly—indeed, almost immediately—showed itself after copious venesection. It would seem that, after a great loss or a violent depression of the organism by privation, cold, or fatigue, there is a danger of the supervention of obesity as a result of the repair of unusual tissue waste itself, which, seconded by an appropriate alimentation, may exceed the desired object.

The deprivation of a limb, or castration, predisposes to obesity; everyone knows the effect of castration on oxen, cats, and fowls.

M. de Saint-Germain then proceeds to develop the therapeutic means proper to combat obesity. amongst the principal of which he ranks regimen and exercise. He relates in detail the case of a well known French medical man. Descended from parents who were not particularly fat, and rather lymphatic than sanguineous, this gentleman reached the age of twenty-one without the least tendency to obesity. During the first years of his studentship, he was much the thinnest and tallest of his companions. When he obtained a house-surgeonship, under the influence of the change of diet, and especially of the larger quantity of wine he took with his meals he became much fatter in a single year. This development of fat once set up continued to increase, until, in 1864, when twenty-eight years old, he weighed 214 lbs. with his clothes on, which represented about 204 lbs. when undressed. From 1864 to 1872, he constantly increased in weight, until, in 1873, he attained the weight of 230 lbs. Determined to resist this morbid growth of adipose tissue, he undertook, by advice of a friend, the classic treatment consisting of Vichy water, iodide of potassium, Marienbad water, gluten bread, exercise, etc. He obtained some result, in so far that, at the end of about six weeks, he had lost 29 lbs. in weight, but he found it impossible to continue this treatment. The least fatigue induced copious perspirations, he was out of breath if he went up two flights of stairs, and he had fallen into an advanced stage of anæmia. Discouraged by this want of success, he resumed his former way of life, regained his previous weight of 230 lbs. in a few weeks, and, with the weight, his usual vigor and vivacity. From 1873 to 1877, there was nothing particular to note, except some alternations of becoming thinner or fatter, almost always coincident with the less or greater absorption of fluids. He grew fatter in the summer and a little thinner in the winter. Finally, on January 4th, 1881, our friend found that he weighed 216 lbs. without his clothes. He felt that he must really set seriously to work to reduce himself, and commenced the following system of exercise and regimen. He rose at five o'clock in the morning, and rode at a quick trot, first one hour, then, after some time, an hour and a half, then two hours. After this exercise he found himself absolutely covered with sweat. Putting on a warm overcoat, he immediately walked about two miles in twenty minutes. He then went home, dried and dressed himself, and went to the hospital. After two months he changed the order of his exercises: began by walking two miles at a rapid pace, and ended by two hours' fast riding. So soon as a certain amount of reduction of his obesity permitted, he began fencing, and went on for five months on the following plan: walking two miles in twenty minutes, two hours' fast trotting on horseback, and twenty-five minutes' fencing; to these exercises he added swimming every other day. The regimen must now be taken into consideration; and here M. de Saint-Germain points out that regimen has a powerful effect on obese patients; in fact, so powerful, that a patient may be tempted to abstain from the fatigue of exercise, and to trust entirely to dietetic regulations; one thing however must not be overlooked, and that is, that the loss of weight due to regimen alone is accompanied by muscular weakness. Exercise must be taken, if muscle is to be strengthened by diminishing the adipose element. The French first breakfast, generally composed of chocolate, coffee and milk, or soup, was in this case absolutely cut off; the second breakfast, answering to our luncheon, was invariably composed of two boiled eggs, a mutton cutlet, with salad or fruit, a cup of coffee without sugar or brandy, and not any bread or wine whatever. M. de Saint-Germain insists greatly on total abstention from bread and wine, which, in his opinion, forms the cardinal points of the cure; and more especially on the abstention from wine, which he believes, fattens, both by the alcohol it contains, and by the amount of liquid it introduces into the animal economy. The patient in question drank water only with his breakfast, and cold or tepid coffee only, if he required any other drink during the day. For dinner, the diet was one dish of meat, one dish of green vegetable, and some fruits; neither soup, bread nor wine was allowed. One of the first results observed from this regimen was the disappearance of the irresistible sleepiness he had suffered from after breakfast and dinner, and the perfect calm of the nights, which had frequently been disturbed by an insatiable thirst. He found also that the regimen was strengthening to him, and that he had never been able, at any period of his life, to go through the exercise described so quickly, and with so little perspiration. M. de Saint-Germain insists strongly on the necessity of patients under treatment for obesity keeping an exact register of their weight from day to day, made with great care, so that, if the reduction be too rapid, the severity of the diet may be relaxed, or the amount of the exercise reduced. He gives some elaborate tables in support of his practice, too long to be reproduced here, but which show immediate increase of obesity if his dietetic rules be infringed. He enters a vigorous protest against the folly and danger of systems of reduction of obesity, based on the use of alteratives and purgatives. This method, he asserts, only influences obesity by inducing a cachectic condition in the patient, and its smallest drawback is that it can only be continued for a certain time. M. de Saint-Germain states that, for children especially, when obesity is concomitant with infantile paralysis, the treatment should be residence in the country at a high and perfectly dry level, near woods; with strengthening baths, shampooing, and stimulating saline baths.—*Brit. Medical Journal.*

THE CONTAGIOUSNESS OF TUBERCULOSIS.—In a discussion at the Academie des Sciences, M. Toussaint read the following paper:

"The facts as to the contagious nature of tuberculosis which I presented to the Academy and the criticism which they excited causes me to speak now of some work with which I have been engaged for the last two years, and which embrace more than two hundred experiments. I have had especially in view the contagious nature of this disease, and the questions of hygiene which the study of the disease brings up.

"When I began the study of contagious diseases, my first care was to find an animal in which the disease could be inoculated with certainty and in which it would develope in a short time; for these reasons I chose the rabbit, cat and pig. For these same reasons experimenters who have studied charbon have used the rabbit, although it is extremely rare to find that disease spontaneously developed in that animal. I found that tuberculosis was as fatal to the pig and the rabbit as charbon is to the latter animal.

"I think that the human species is even more susceptible than the animals named above, and it appears to me probable that if we should inoculate man with tuberculous matter, that very few, young or old, would escape the disease.

"Tuberculosis of man is the same as that of cattle; when these animals are inoculated there are produced lesions absolutely identical with those observed in man, capable of being transmitted to other animals of that species and always producing the same symptoms. I have assured myself of that by causing animals to ingest tuberculous matter and also inoculating by the blood. Human tuberculosis, like that of animals, can be inoculated by means of the intestinal tube, by the blood and by the secretions, and invariably shows the same characteristics.

"It can be said, it is true, that tuberculosis can be caused by inoculation with inert substances. It has been proven by numerous pathologists, that there can be produced at will lesions which resemble those of true tuberculosis. I have seen cases of this kind. But this disease so easily caused does not reproduce itself by inoculation of the seemingly tuberculous matter thus obtained.

"These experiments only prove that the histological appearances which we thought characteristic of tuberculosis are fallacious. I deny that by these a tuberculosis, capable of being indefinitely inoculated, can be produced. The so-called tuberculosis produced in this way is an artificial production and not true tuberculosis.

"True tuberculosis taken from man and given to the cow, pig or rabbit, can reproduce itself in an indefinite series, with absolutely identical characteristics, and it can be inoculated from one animal to the other without the virus becoming weaker. Nay more, the oftener it is inoculated the more virulent it becomes. I can bring numerous experiments forward to prove the last assertion. In the first animals of a series it takes four or five months for tuberculosis to bring about a fatal result in the pig or rabbit, but with the fifth series two months only are required.

"This fact has also been observed in tuberculous matter obtained by culture experiments. The fifth culture is more virulent and rapid than the first. The tenth more than the fifth. A rabbit which was inoculated by eight drops of the eighth series of virus obtained by culture experiments died after five months with its lungs stopped with tubercles. The kidneys and spleen were in the same condition.

"[1]A pig inoculated with vaccinia from a tuberculous cow was killed and showed a general tuberculosis."—*La Medicale Médicale.*

CRITICAL EXAMINATION OF SOME WHOOPING-COUGH REMEDIES.—Prof. Otto Heubner (*Deutche Med. Wochens.*, 1881, p. 541; from *Jour. f. Kinderkr.*) has made an investigation of the most highly recommended remedies in whooping-cough,—namely, bromide of potassium, quinine, hydrate of chloral, salicylic acid, and belladonna,—with a view of ascertaining their exact therapeutic value. Heubner prefaces his paper with the remark that it is much more timely to make a thorough examination of the effect and value of such remedies as we now possess than to go hunting after new specifics. He selected whooping-cough because it is easy to diagnosticate with certainty. In addition to this, the cases to be studied were taken from patients in the same neighborhood and social position, from uncomplicated cases, and from all the cases as they presented themselves at his clinic. The remedies used, except belladonna, were such as are apt to be obtained of uniform character, thus eliminating one element of uncertainty. The action of the remedies was studied in three directions,—(*a*) in relation to the intensity of the individual attacks, (*b*) in relation to the frequency of the attacks within a given period of time, and (*c*) in relation to the entire duration of the disease. Six weeks was taken as the average duration of the disease; and if the medicine failed to shorten this the result was counted negative, while if the duration of the disease was shortened it was counted positive. Forty-four uncomplicated cases of whooping-cough were studied.

The drugs were given as follows: Bromide of potassium in doses of 0·5 to 3·0 grammes in watery solution per diem. Quinine was given in solution or in powder in the dose of 0·3 gramme per diem. Chloral hydrate was given in two cases in broken doses, in the other cases in enema, in the dose of 0·3 to 1 gramme per diem. Salicylic acid was given in one case in the form of salicylate of sodium, inwardly; in the other cases it was inhaled as a a spray in a one-third to one-half per cent. solution, 0·1 to 0·15 gramme of salicylic acid being inhaled at each sitting. Belladonna was usually given as the powdered extract in doses of 0·15 to 0·06 gramme per diem.

The results of Heuber's investigations are given in the following table:

INFLUENCE ON THE ATTACKS.			INFLUENCE OF SHORTENING THE DISEASE.		
	Pos.	Neg.		Pos.	Neg.
Salicyl. inhal.	10	7	Belladonna	3	5
Chloral	6	4	Quinine	3	8
Belladonna	4	4	Chloral	2	8
Quinine	5	6	Salicylic	2	15
Bromid. potas.	9	14	Bromid. potas.	0	23

From the above table of cases it appears that salicylic acid is about eight times as likely to be useful in diminishing the frequency and severity of the attacks as is bromide of potassium. Salicylic acid inhalations are therefore the best means of shortening and diminishing the attacks, while belladonna and quinine have the best effect in abbreviating the duration of the disease. It must be remembered, however, that the best of these remedies fail to diminish the number of attacks by one-half, and any new remedy which may be brought forward should be carefully put to the proof by these methods.—*Medical Times*.

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[1] *Travail du laboratoire du M. Vulpian.*

SURGERY.

Treatment of Empyema.—Dr. W. Wagner of Königshütte, in commenting on a case of empyema successfully treated by operation under antiseptic conditions (*Sammlung Klinische Vorträge*, No. 197) states that the treatment of this affection has now reached a fresh stage; and that, since the introduction of Listerism, an operation, instead of being a mere palliative measure, is to be regarded as justifiable under all circumstances, and, in cases of simple empyema at least, as free from risk.

The surest way, Wagner asserts, of distinguishing an empyema from a simple pleuritic exudation, is to make an exploratory puncture. This may be done with a disinfected hypodermic syringe and trocar, or, better still, with a larger syringe, such as that used by veterinary surgeons, which holds about five grammes of fluid, and is furnished with a strong and large needle. The exploratory puncture, however, does not always guard against errors in diagnosis. In the first place, a case may be met with in which there are two separate and distinct exudations, one a serous, the other a purulent exudatian. Then, again, it may happen, especially in cases of exudation originally serous or sero-purulent, that have become purulent, that the exploratory puncture will give vent to serous fluid in the upper part of the collection and to purulent fluid below. In a patient lying constantly on his back, this precipitation will take place not to the inferior but to the posterior part of the thoracic cavity, so that serum will be present in front and pus behind. Dr. Wagner, though acknowledging that cases of this kind are rare, lays it down as a rule that, in every case of pleural exudation in which the general symptoms indicate empyema, several exploratory punctures should be made at different parts of the corresponding thoracic wall, should it happen that at the first or earlier punctures serum and not purulent fluid is withdrawn.

At the present day, no medical man believes in the possibility of the absorption of a purulent pleural exudation. The so-called "natural cure," in which the pus is discharged through the air-passages, is of rare occurrence, and, when it does occur, is likely to have bad results, and to give rise to phthisis through the contact of the discharge with the lung-tissue, or through its aspiration into the fine bronchial divisions. Spontaneous discharge of an empyema through the thoracic wall cannot be regarded as a favorable termination, and is often followed by an obstinate fistula.

In a case of well-marked empyema there is, in Wagner's opinion, an almost unconditional indication to operate at as early a date as possible. Unless the affected pleura covering the lung be soft and yielding, and the lung itself be capable of complete re-expansion, the chances of a speedy and good cure will not be favorable. An acute pneumonic infiltration still persisting, whether to a high or low degree, should not prevent early recourse to operative treatment, for with removal of the empyema the pressure on the lung is removed. This organ is thus set free, and as its normal conditions of circulation become re-established, the absorption of the inflammatory exudation is favored. If the inner wall of the abscess be stiff and unyielding in consequence of thickening of the pulmonary pleura, then cure cannot be effected speedily, and cannot possibly occur at all, unless the resistance of the thoracic wall or that of the tough pulmonary pleura can be overcome. Wagner sums up his remarks on this subject by stating that, when we operate in the early stage of empyema, we meet with the most favorable conditions for the re-expansion of the lung and for the approximation of the walls of the abscess. The older such an abscess, the thicker will be its walls, and the greater difficulty will there be in the obliteration of its cavity. In the application of the above rule, it is, of course, to be understood that the operation be performed under antiseptic conditions. Dr. Wagner is not in favor of treating empyema by simple puncture and aspiration. Such treatment may occasionally prove successful, especially with young children, in which class of patients there is likely to be a rapid re-expansion of the lung after removal of the purulent fluid; but it is attended with this disadvantage, that, as it is almost always impossible thus to remove all the pus, there is likely to remain a small quantity of this secretion, the presence of which invariably causes a relapse of the empyema. The rule is laid down by Wagner that it is not justifiable to try puncture more than once in a case of empyema, and that, if this first attempt do not succeed, the surgeon ought, without delay, to have recourse to incision. The longer an empyema is allowed to run its course, the less favorable become the chances of a cutting operation, and with repetition of simple puncture valuable time is lost.

Though an incision through the thoracic wall low down in the back of the chest may be most favorable for a full discharge during the operation, and in the course of the after-treatment, yet, Dr. Wagner holds, this situation can hardly be regarded as being under all circumstances the best in the operation for empyema. The inferior and posterior part of the affected pleural cavity is often obliterated in consequence of pleurisy, and the space may be so contracted through approximation of the elevated diaphragm and the inner wall of the thorax, and also through re-expansion of the lung, that free discharge of pus from the pleural sac is prevented. Dr. Wagner prefers an incision in the fifth or sixth intercostal space, near to the edge of the latissimus dorsi muscle; and in order to promote a free discharge during the after-treatment, he keeps his patient lying on the side, with the pelvis and lower part of the trunk elevated on a firm pillow.

In the cutting operation for empyema, Dr. Wagner recommends the administration of an anæsthetic. With anæsthesia, the surgeon is less likely to be disturbed through restlessness of the patient, and he may, if it be found necessary, proceed without delay to resect a portion of rib. Care, however, must be taken that the movements of the chest on the sound side are not impeded during the operation. Sudden death, which has occurred in some cases of empyema during operation, cannot, it is stated, be attributed to the anæsthetic. It has been due rather to some disturbance of circulation (thrombosis, cerebral anæmia, embolism of the pulmonary capillaries, pulmonary congestion, or œdema). These instances of sudden death have occurred as frequently during simple thoracentesis without anæsthesia, as in cutting operations for empyema.

The details of the cutting operation are very simple. The surgeon either makes an incision through the skin about two inches in length along the upper margin of a rib, and then slowly divides the muscles until he reaches the pleura, which he opens with a small bistoury; or, following König's practice, he resects subperiosteally a portion of the rib about one inch in length, and then opens the thoracic cavity by incising the posterior layer of periosteum and the pleura. This latter operation should always be performed when the intercostal space is not of sufficient width to admit of the passage of a wide drainage-tube. It is not likely to be attended with any bad result, and in young subjects the resected portion of rib is almost always wholly replaced.

During the flow of pus, which should not be allowed to take place too rapidly, the surgeon should carefully examine the fluid, and also introduce his finger through the opening into the pleural cavity, in order to ascertain the condition of the surrounding wall. He thus endeavors to make out indications for future treatment. If the purulent discharge be free from smell, and do not contain flakes, no injection need be made into the sac; but if, on the other hand, it be fetid, and be mixed with large and numerous masses, then it is necessary to wash out the cavity. Dr. Wagner now uses in such cases a 7 per cent solution of boracic acid. If the walls of the purulent sac be felt to be thick and rough, and if they be evidently covered by adherent masses of fibrine, then it is necessary to wash out the cavity thoroughly and repeatedly with strong antiseptic solutions, which, in order that chilling may be avoided, should be warmed before they are injected. It is advisable, in dealing with such a condition, to make a second opening into the thoracic cavity.

When the pleural cavity has been opened, relieved of its purulent fluid, and washed out, or, as should always be done in simple cases of pyæmia and with children, has been simply emptied, a piece of drainage-tube of wide calibre, the length of which need not be more than two inches, should be inserted into the wound. Across this tube, near its outer extremity, a needle is thrust. This prevents the tube from falling into the thoracic cavity, whilst two sutures applied to the margin of the external wound and tied around the needle prevent it from being forced outwards. During the operation and immediate dressing, and also during subsequent dressing, Dr. Wagner guards the exposed parts by the carbolic acid spray. The first dressing, by which the whole of the affected part of the chest is covered, and which reaches from the axilla to the pelvis, consists of thick layers of Lister's gauze and of salicylated wadding. The first dressing ought not, it is stated, to be allowed to remain for a longer period than twenty-four hours, even though no secretion has made its way to the surface. The surgeon should then make sure that the drainage-tube remains in position, and that it is patent, and not obstructed by a clot. Retention of pus thus caused is a serious matter in a case of simple empyema, since a continuous and full discharge of the secretion is a necessary condition of a speedy cure. For the same reason, it is held advisable to change the second dressing after a short interval. The thermometer is a sure indicator of retention of pus, but not until this has been established for some hours. During each change of dressing, which, as has been stated, is always done in Dr. Wagner's practice under the spray, the drainage-tube should be removed and thoroughly cleansed, and, if necessary, be shortened before it is replaced. If, during the after-treatment of a primarily simple case of empyema, the pus become fetid and mixed with flakes and shreds of fibrine, the pleural cavity at each change of dressing must be washed out with an antiseptic solution. Dr. Wagner recommends a solution (three to eight per cent) of boracic acid, or a five per cent solution of chloride of zinc.

Careful observation of temperature is of the highest importance during the after-treatment of empyema. In a case of simple empyema, the temperature, after an antiseptically performed operation, should from the first be almost normal, unless there be any disease of the lungs or other viscera. An evening temperature of over 101° should always arouse suspicion that the pus does not flow freely, or that it is no longer in a good condition. A persistence of fever may be caused also by the presence within the pleural sac of fibrinous masses, and, in such case, steps should at once be taken to remove these. In many cases of empyema, these masses exist in abundance, and set up fever by acting as foreign bodies and by becoming decomposed. When purulent fluid discharged at the time of operation is found to contain fibrinous flakes, and the walls of the cavity can be felt to be roughened and covered by similar deposits, the case can only be treated as one of simple empyema, and an attempt must be made to remove all the material. A portion of rib should be resected, in order that the opening in the thoracic wall may be of sufficient size, and then the surgeon should attempt to remove as much as he is able of these fibrinous masses, by introducing his finger and by washing out the cavity. The injected fluid should be an antiseptic one sufficiently concentrated to disinfect, as far as may be possible, any remaining deposits. The use of such injections should be continued until the purulent discharge becomes free from smell, and is no longer mixed with portions of fibrinous material. The further treatment of complicated empyema, so long as the pus is in good condition, is the same as that of simple empyema.

Dr. Wagner warns against replacing too soon during the after-treatment a thick and short drainage-tube by one of smaller calibre. A weak and narrow tube will more readily become obstructed, and offer less resistance to the tendency of the ribs immediately above and below the wound to come together and obstruct the flow of pus. When there has been no secretion for about eight days, and the temperature has remained during this period quite normal, the drainage-tube may be removed. The wound generally heals then very rapidly. If in cases of this kind there occur a reaccumulation of pus, the abscess is usually a small one, and its sac is cut off from the pleural cavity. If the discharge does not cease very soon, it would be advisable, Dr. Wagner states, to brush over its lining membrane a strong solution of chloride of zinc. No injection should be made into this abscess, as the recent adhesions might readily be broken down. *London Medical Record*, October 15, 1881.

FRACTURE OF THE NECK OF THE FEMUR.—When we have admitted the uncertainty and the not infrequent impossibility of making a diagnosis of fracture of the femoral neck, we may ask the following question:

"Are there any signs by which we can be reasonably sure that there is a fracture of the neck of the femur, on the supposition that crepitus is absent, and that it is not good practice to try to find crepitus."

In order to bring some points to bear on the settlement of this question, I have tabulated the records of twenty-one cases of fracture of the femoral neck that I have seen, some with other surgeons and some in my own practice. The records that I have tabulated contain the following measurements:

1. Inside measurements from the superior anterior spines of the ilium to the lower ends of the internal malleoli.
2. Outside measurements from the superior anterio spines of the ilium to the lower ends of the external malleoli.
3. Measurements from the tops of the great trochanters to the lower ends of the external malleoli.
4. Measurements from the bases of the tibiæ to the lower ends of the internal malleoli.
5. Measurements from the superior anterior spines of the ilium to a line drawn transversely in front between the tops of the great trochanters. This is the transverse femoral line.

The object of all these comparative measurements is to determine the possibility of original symmetry of the two limbs, and find out, as far as possible, if the injury to the hip has caused any shortening of the limb on the injured side, so that we can infer the *probability* of there being a fracture of the femoral neck.

Let me repeat, in this connection, some of the points constituting reliable surgical measurements: 1. The instrument of measurement should be an accurate steel tape-line, with feet and inches on one side, and metres and centimetres on the other side. This tape-line will not elongate under tension, *and the ordinary tape line will elongate under tension.* 2. The measurements should be made independently; that is, when one is made, the points of the tape-line should be removed from the surgeon's hands, and new points for the other side of the body should be determined without any reference to the measurement of the first side. 3. In all ordinary cases, the leg may be measured quite accurately by semi-flexing it on the thigh, for this position brings the anterior edge of the base of the tibia markedly under the integument, so that it can be made quite as accurate a point of measurement as the superior anterior spine of the ilium. 4. In most cases the tops of the great trochanter can be so accurately compared as to make the measurement from them to the external malleoli of considerable value. 5. In all cases, the personal equation of the surgeon should be most carefully excluded from any measurement. 6. The lower limbs should be put parallel with the pelvis; for, in the ordinary measurements, adduction elongates and abduction shortens the lower limb.

1. In all of the twenty-one cases above recorded, there was more or less obliteration of the abdomino-femoral—or inguinal—fold on the side of the injury. This was probably due to two causes: *a.* Effusion in front of the injured femoral neck; *b.* Contraction of the soft parts in front of the femoral neck.

2. About one-half of the patients were examined standing up—and when the foot of the injured side was brought down to the floor, the glueto-femoral fold on that side was seen to be lower than the gluteo-femoral fold on the uninjured side.

3. There was out-rotation of the injured limb in all of the above cases. In Cases I. and II. the out-rotation was not marked.

4. In all the cases of impaction of the base of the femoral neck, the upper end of the femoral shaft was materially enlarged. There were probably eight such cases.

5. In all of the cases of impaction of the top of the femoral neck into the femoral head, the upper end of the femoral shaft was not enlarged. There were probably five such cases.

6. The other eight cases could not probably belong to either of the above classes.

7. In all of the above cases there was more or less prominence of the outside of the hip, but the gluteal region was somewhat flattened; and generally there was a fulsiform enlargement of the upper part of the thigh.

8. In fourteen of the twenty-one cases there was more or less asymmetry of the lower limbs. And this point is important for two reasons: First, it was determined by measuring from the tops of the great trochanters. Second, it agrees with the general fact, that about two persons out of every three, have asymmetry of lower limbs. Hence, the above measurements from the tops of the great trochanters to the external malleoli were probably correct: *Hence, such a measurement may be recommended as a valuable aid in making a diagnosis of fracture of the neck of the femur.*

1. The average shortening after fracture of the

neck of the femur, as shown by the inside measurement, is about 62-100 of an inch; as shown by the outside measurement, is about 55-100 of an inch; and as shown by both measurements, is about one-half inch, 58-100.

2. The greatest shortening was one inch and one-half—in case V.

3. The least shortening was zero—in case XVI. *But in that case the.e was an actual shortening of three-fourths of an inch.*

4. The average normal asymmetry of the lower limbs in the above 21 cases was 40-100 of an inch.

5. The average shortening of the measurement from the superior anterior spine of the ilium to the transverse-femoral line was about one-half inch, again showing that the top of the trochanter major is an approximately accurate point from which to measure.

6. In the four following cases the injured limb appeared to be shortened one-fourth of an inch by a comparison of the inside measurements.

In no case of fracture of the femoral neck do I use force to find crepitus. I consider the other evidences of fracture—such as I have above enumerated—as sufficient to come to a practical conclusion. Nor do I give an anæsthetic in order to make an examination. In this connection let me make the following statements:

1. Moving the outer fragment when it is in contact with the inner fragment, will generally carry the inner fragment with it, and there will be no crepitus. And when there is impaction ordinary manipulation will not cause crepitus to be felt. Yet crepitus may at times be felt, when there is impaction of the neck of the femur.

2. Moving the outer fragment when it is not in contact with the inner fragment, of course will not give crepitus.

3, Hence, unwarrantable force will be required in order to get crepitus in many cases of fracture of the neck of the femur. And more than this *—an impacted fracture of the neck of the femur may be broken up by severe manipulation, and a patient that would have had a useful limb may be quite completely disabled for life—for an impacted fracture of the neck of the femur is the best setting of the bony fragments that the surgeon can have.*

4. In a suspected case of fracture of the neck of the femur, I examine all the witnesses of fracture except crepitus, and if these witnesses agree substantially, I pronounce a verdict in favor of fracture of the neck of the femur. And if there is a doubt as to the correctness of such a verdict, I give the patient the benefit of that doubt, by treating the case as if there was fracture of the neck of the femur—and then the surgeon receives a benefit from that doubt. But if there is no fracture, the patient has had some days of needful rest, and has had a contused hip well treated. —Prof. Wight, *Proceedings Med. Society County of Kings.*

IODOFORM IN WOUNDS OF THE MOUTH.—The efficacy of the local use of iodoform in tuberculous affections of the joints, and its efficacy in the treatment of wounds where sutures are inapplicable has recently led Prof. Billroth to test its use in wounds near the natural apertures of the body, particularly since antiseptic dressings to these parts have been found unmanageable. From April to October, 1881, 18 carcinomata of the tongue were removed in the Vienna clinic. In some of these cases the third or half the tongue was excised, although in the majority the organ was removed in its entirety. In many of the cases it was found necessary to remove part or all of the floor of the mouth to the hyoid bone. In several cases the submaxillary gland and lymphatics, as well as parts of the soft palate and pharynx, were removed. To render these extensive operations practicable, the inferior maxilla had to be divided and in a number of case was partially removed. To prevent excessive hemorrhage, and flooding of the field operation, the operations on the tongue were as a rule preceded by ligature of the lingual and facial.

In all of the 18 cases a complete cure was effected. In none of the cases was there any local disturbance, and in only a few was there any elevation of temperature except during the first few days.

Since the technicalities of the operation had not been altered, these fortunate results must be attributed to the treatment of the wounds with iodoform. The main points of this treatment can be summarized as follows: When after amputation of the tongue and floor of the mouth, the latter communicates with the external wound through which the lingual artery was ligated, a large drainage tube is passed through this opening into the mouth. If the floor of the mouth was not injured by the operation, B. no longer perforates it for drainage purposes. After the operation a piece of iodoform-gauze, six to ten inches in length and one to two inches in width folded upon itself, is introduced into the wound and pressed against the surface operated upon. This small piece of gauze suffices to completely and permanently keep the wound free from septic changes.

The piece of gauze thus introduced after the operation clings to the wounded surface for from five to eight days. It does not come out spontaneously before this length of time has elapsed and does not interfere with the deglutition of the patient.

The iodoform gauze is prepared as follows: 60 gr. of resin are dissolved in 1200 gr. of alcohol and 50 gr. of glycerine are added to this solution. Into this are placed six yards of gauze from which the excess of solution is to be squeezed out. When this gauze is half-dried 50 gr. of powdered iodoform are dusted upon it.

If the results obtained in these cases of Billroth be compared with those achieved in similar cases in former times, it becomes apparent that in the iodoform we have a powerful means of preventing the septic changes that usually carried off patients who had been subjected to capital operations about the mouth.— Wöfler, *Centralblatt f. Chir.*, Dec. 3, 1881. J.R.

OSSEOUS LESIONS IN HEMIPLEGIA.—M. Debove has made a few observations, before the Société Médicale des Hopitaux, on the osseous lesions met with in hemiplegic subjects. As surgeon of the Bicetre Hospital, he had observed several fractures in paralytic subjects, and he noticed, at the same time, that the fracture was always on the side of the hemiplegia. There was reason to believe that the bones on the affected side had undergone some alteration which rendered them more friable. At the autopsy of a hemiplegic who had fractured the humerus, M. Debove was able to observe that not only had the fractured bone undergone this change, but all the bones of that side were affected. In comparing the two sides, he found that the humerus of the paralyzed side was lighter than that of the other, the medullary canal was larger, and the substance of the shaft less compact. The Haversian canals were much dilated, and the bone was porous. There was evidence of fatty degeneration. These lesions were sufficient to explain the relative frequence of fractures in hemiplegics. M. Debove observed, however, that these fractures united very rapidly.—*Medical Press and Circular*, November 9, 1881.

OBSTETRICS.

Hints for the Diagnosis of Ovarian Tumors.—Dr. A. Macdonald gives the following hints in the Edinburg *Medical Journal* for November:

1. *Pregnancy.*—The possibility of pregnancy, the signs and symptoms of pregnancy, and waiting if in doubt, place the diagnosis beyond possible mistake, with a fair measure of care.

2. *Fibroid.*—A large fibroid with solid walls, leading to general enlargement of the uterus, is easily diagnosed. The increased length which the sound enters, the fact that the uterus moves with the sound, the peculiar feel of the uterus, and the nearly constant menorrhagia, suffice to keep the diagnosis correct. It is quite common to hear a bruit in a case of uterine fibroid; only in vascular sarcomata is such audible if the tumor is ovarian. But much greater difficulty is experienced in cases of fibro cystic tumors connected to the uterus, with or without pedicle. In that case we must try to ascertain whether the tumor is connected or disconnected with the uterus. Then the cyst of a fibro-cystic tumor may be tapped, when we expect to find only a thin fluid of great density, with some blood-corpuscles, and possibly some non-striped muscular fibres. But in those cases it is often found that only an exploratory incision can determine the diagnosis with accuracy.

3. *Renal Cysts* begin below the false ribs and extend downward and forward. They have a line of resonance between them and the liver, due to the transverse colon, which is of value, as showing they are not of hepatic origin, and when aspirated they contain urea. Usually accompanying such, there are urinary symptoms, but not always.

4. *Ascites* exhibits the characters of free motion of fluid in an imperfectly filled cavity. Accordingly when the patient lies on her back the abdomen is flattened anteriorly, the flanks give a dull note, and there is clearness round and above the umbilicus. With change of the patient's position the areas of resonance alter. Thus, if the patient is turned on her left side, the right flank gives a clear note, and *vice versa.* In case of tapping an ascites the thick gelatinous fluid characteristic of ovarian tumor is never obtained.

5. *Hydatid Cyst of the Liver.*—In this case the tumor grows from the liver, distending first the distance between the ensiform cartilage and the umbilicus, the reverse of an ovarian cyst. Again, tapping and discovering acephalocysts in the fluid is convincing evidence of the true nature of the tumor.

6, *Hysterical Abdominal Distention*, commonly known as spurious pregnancy, need deceive no one, as the percussion is uniformily resonant, and the tumor disappears under chloroform.

Extirpation of Fibroid Tumors of the Uterus.—Dr. Labbé (*Bull. de l'acad. de Méd.*, No. 31, 1881), makes the following remarkable suggestion concerning the extirpation of large uterine fibromata: Since the victims of such growths are mostly in the condition of anæmia of high degree when they come to operations it would be of great advantage to secure to the patient the reservoir of blood in the tumor itself. The author therefore advises after the exposure of the tumor the envelopment of it in the compress of Esmarch to secure the extrusion of all its blood. Should the application of the bandage be difficult, needles may be stuck into the tumor as points of support for the rubber rolls. Labbé practiced this method once himself. After opening of the abdomen and exposure of the mass all the blood of the tumor was squeezed out of it before its exsection, so that after removal it was in fact totally devoid of blood—but the patient died nevertheless. J.T.W.

Miscellany and News.

Modern Miracles.—A new miracle has created a great stir in Dieppe and its environs. A young peasant-girl, who has for some time been giving herself to pious exercises, has for several months past shown the stigmata of the Passion. Like Louise Lateau, this girl sees every week, on Thursday and Friday nights, an appearance of the five characteristic wounds: two on the hands; two on the feet, and one in the side. In the intervals, the marks of the wounds remain, but it is only at the stated periods that blood flows. Obliged to wrap herself up in bandages to collect the fluid, she leaves on the linen large bloody marks, which testify to a somewhat copious hæmorrhage. Intolerable pain supervenes at the level of the stigmata, which cannot be touched without bringing on cries of anguish. In all other parts, the cutaneous surface is absolutely anæsthetic; for, as will already have been concluded, this is a case of hysteria. As an accessory complement of the miracle, it must be noted that, since June last, the girl has not taken any nourishment; this, however, is a tolerably general symptom in neuropathic patients During the first days of the week, the girl works, being a dressmaker with a fair number of customers; she begins to suffer on Thursday morning, but the blood does not flow until night. On Friday and Saturday, she recovers gradually.

Dr. Hurpy, actuated by a legitimate feeling of scientific curiosity, saw the patient for the first time one Friday morning, and was extremely interested by the phenomena he observed. He had the greatest desire to be present at the actual appearance of the miracle, and, with praiseworthy perseverance, sat up for three nights on Thursdays and Fridays with the girl. He was not, however, sufficiently fortunate to witness the flow of blood, though he was present, it is true, at hysterical ecstatic crises, in which the patient transfigured, as if by angelic visions, held converse with the Virgin, whom she beheld before her; and she continued to utter prophecies for many hours. The fragments of phrases she uttered have been collected and written down during one of these performances; her effusions refer, as usual, to the dangers which await France in the near future, and to the remarkable prosperity which that country will enjoy after this period of probation, Dr. B. Ball of Paris, who relates this incident in the *Encéphale*, June, 1881, became greatly interested by the information about this case sent to him by his friend Dr. Hurpy; and, wishing to make a serious investigation into it, in concert with the latter, he went to Dieppe on the 1st of September last. On the same evening, he went to see the girl with Dr. Hurpy; Dr. Chambard, Dr. Ball's laboratory assistant, who took with him some scientific instruments with which to make some experiments on the patient; Dr. Bec, prosector of one of the Paris hospitals; Dr. Cauchois of Rouen; and M. Chevalier, professor of philosophy, as representing the psychological element. Two fresh phenomena were now added to those previously described; a week before Dr. Ball arrived, the bloody traces of the crown of thorns had appeared on the patient's forehead; and pains had been felt on the right shoulder, where Christ carried the cross. It may be imagined how these new miracles had excited the enthusiasm of the spectators. It was also added that the traces of flagellation had shown themselves on the back and sides; this latter manifestation, however, was more vague and less distinct than the others.

When the investigating party arrived, at about eleven o'clock at night, at the house of the ecstatic, they found a considerable number of people waiting, who wished to be admitted; but it had been agreed with the family that, in order to give full liberty to the observers, no strangers should be present, with the exception of one friend of the family, a neighboring landowner. Introduced into the bedchamber of the patient, the party found a fair-complexioned pretty girl, about nineteen years old, in bed, and seeming to be in a calm sleep, except that occasional groans seemed to testify to some unrevealed suffering. The first thing, however, which struck M. Ball was the unexpected abundance of the bloody marks which spotted the forehead of the stigmatised patient, and were evidently intended to represent the crown of thorns. Dr. Ball writes that his enthusiasm was considerably cooled by this appearance, No painter, wishing to represent the Passion, had ever been so prodigal with his brush; and he asked himself how a crown of thorns placed on the head of the Savior could have produced, not five or six, but twenty or thirty blood marks, arranged in squares with perfect regularity in three parallel lines. The girl's hands were lying on the counterpane, and were covered with bandages, which were taken off by the investigators. They saw, at the back and on the palm of the hand, on the line of the third metacarpel, a red mark about two centimetres long by two or three millimetres wide. The wound was covered with coagulated blood, perfectly dry, as in the stigmata of the forehead. Uncovering the feet of the patient, the medical men found a nearly identical mark situated on the right, between the first and second metatarsal bones, and on the left between the second and third. Finally, turning the patient on her side, and removing her clothes, they found a small and somewhat irregular bloody line, elongated in a horizontal direction, and situated between the fifth and sixth left ribs. All these examinations were not made without provoking some resistance from the girl, who seemed to suffer acute pain when the investigators seemed about to touch the stigmata, and she cried out several times: "No, I will not have it; so much the worse!" These obstructive remarks were nearly the only ones uttered by her during the night; the gift of prophecy had obviously deserted her. After these first observations, the party retired into an adjacent room, leaving one person only to watch the patient, so as to give others notice when the miracle manifested itself. Up to one o'clock of the morning, nothing occurred. Some magnesium photographs were then taken. The patient was very obliging during the operation; although she was, to all appearance, asleep, she took the attitude of the Crucifixion, and turned the palms of her hands outwards. The party had again left the bedchamber, when, towards two o'clock, they were warned that the miracle was about to commence. They hastened, of course, to behold the sight; they found the bandages which enveloped the hands slightly stained with blood, but, on removing them, they were able to ascertain that these small spots were produced by a portion of the clots probably diluted with a little saliva; a drop having thus formed and flowed over the hand. There was no trace of sanguineous exudation on the forehead, feet, or side. Convinced from this moment that this was a case of imposture, the party again retired; the girl turned her face to the wall, and it appeared for the moment as if she were preparing some fresh trick, but it was not so. Seeing that she was too closely watched to be able to play any tricks, she philosophically went to sleep; and whilst the watchers, shivering with cold and weary with fatigue, were perched uncomfortably on their chairs, their interesting charge slept calmly for five hours of perfectly undisturbed slumber. The doctor awoke her at seven o'clock in the morning; at first, she made some resistance, and refused to open her eyes until M. Hurpy, in the name of the parish priest, ordered her to wake up. She dared not resist this powerful invocation; she opened her eyes; and from that moment, her physiognomy, her position, and her conversation were those of a person in a normal condition. In order to conclude the experiment, it was thought advisable to raise some of the clots, to see what was the condition of the underlying skin. This operation, performed on the forehead, showed that the blood had simply been deposited at the locality of the stigmata, probably by a brush, and that there were no scratches, no erosion of the skin, nor any sanguineous exudation beneath. In the palm and on the back of the hand, the result was different; below the clot, there was found a clean but superficial cut, which seemed to have been made with a penknife (although M. Ball will not positively state what was the instrument used), and only involving the epidermis and the rete mucosum. This examination was not accomplished without a lively resistance on the part of the patient, who pretended to experience acute pain so soon as her stigmata were touched: a perfectly imaginary pain, by the way, for, directly her attention was called off, the wound could be touched without her even being aware of it. Finally, the investigators witnessed an experiment which never fails to make a great impression on the gaping spectators at these performances. At the request of M. Hurpy, and after having said, "I am going, then, to suffer for nothing", or in other words, "I shall not be able to convince these unbelievers", the young girl took a pin, and, plunging it into the wound on the dorsal surface of the hand, brought it out again by the palmar wound. The good easy public, who are not aware that a pin easily makes its way through the tissues, and who are ignorant of the immunity conferred on hysterical patients by anæsthesia, remain convinced that a large gaping opening connects these two wounds, as if the hand had really been pierced by a nail. Before leaving, M. Ball and his party seem to have restored the unfortunate impositor, whose deceptions they had been exposing, to good temper; and they left her with a recommendation to the mother to give her daughter some doses of bromide of potassium.—*British Medical Journal.*

THE DANGERS OF ELECTRICITY.—The accident by which a laborer, on the Marquis of Salisbury's estate at Hatfield has come by his death, will very probably be taken to indicate the excessive dangers associated with electricity as a means of illuminating. This, however, it is to be hoped, will not be allowed to influence the arrangements whereby the new light is being rapidly introduced into general use; but, at the same time, it ought to serve as a warning against the commission of errors such as that to which the death of the unfortunate man was due. It should always be remembered that a current of electricity of power sufficient to afford lighting power of any dimensions, is at the same time a fearful engine of death if, by any mischance, it should be brought into contact with a human, or, indeed, any living body. Hence, a first duty to be discharged in connection with the new illuminant is at all times to secure chance passers by from harm by effectually insulating the conducting wires. Had this been done at Hatfield there would have been no accident to chronicle, and no distrust excited against a force which exhibits itself in so terrible a fashion.

As the facilities for employing the electric light become further developed we must expect to witness its almost unlimited adoption, and in proportion as its use increases, so also will the dangers attendant on it multiply until they are efficiently guarded against. The more particular, and the more quickly these are sought, then the more confidently will the people regard electricity and admit it into general employment.—*Medical Press and Circular.*

IMPROVEMENTS IN GRATES AND HEATING APPARATUSES.—The exhibition of improved grates and heating apparatus for burning anthracite in open grates, and for consuming the smoke of bituminous coal, which is now open at South Kensington, has been largely visited by medical men, whose interest in this question, which so much concerns the hygiene of cities and population, is lively and extended. There are several medical men among the exhibitors, the most noteworthy among them being Dr. Bond of Gloucester, whose heating and ventilating apparatus is extremely ingenious, and shows many considerable improvements on the ordinary existing methods; and Dr. Moore of Camberwell, whose open self-consuming grate has the great recommendation of simplicity, and is in many respects very effective. Mr. Gillingham of Chard, the well-known ingenious surgical instrument maker, shows a remarkable economical and effective method of heating by air.

Among the more effective of the grates shown, as may be especially mentioned, is the "Everitt" grate of Messrs. Barnard, Bishop, and Barnards, which is constructed on the well-known plan of their "country parson's grate", but has several considerable improvements, which make it practically smokeless; the air being admitted through air-holes below the closed grate, and passing upward behind and then over a curved fire-clay back, and so being drawn down into the fire, drawing the smoke through the fire before the products of combustion escape up the very narrow shaft of the chimney. The result of this simple construction is that, on the one hand, combustion is not unduly hurried by excessive draught through the fire, and therefore coal is not wasted; on the other hand, the draught of air and the smoke itself being drawn down through the fire, the smoke and the particles of carbon are nearly all consumed, and very little, if any, smoke passes up the chimney, into which escape only some of the gases of combustion, with a small quantity of smoke which is unconsumed. To outward appearance, the grate differs in no way from the improved patterns of the Norwich grates. Another excellent improvement is introduced by Mr. Crane in the open grate shown by Deane and Co. of London Bridge. Here also the principle employed is that of drawing the smoke and products of combustion down through the fire, and so reburning the carbon. In this instance, it is affected by means of an air and ash pit below the fire; the chimney being closed above, and the products of combustion and smoke, after being drawn down the fire, passing up the chimney-shaft through chambers at the side of the fireplace. Any ordinary fireplace can be fitted with this improved construction at a very moderate cost. Dr. Moore's improved fire-grate is somewhat on the same principle. In the ingenious novelty shown by Archibald Smith and Stevens, of Leicester Square, the fire-basket projects forwards obliquely, and is fed from a coal-box situated above and behind, provided with a continuous feeder, which allows the fire to go untended for nearly the whole day. This grate is, however, more especially suited for anthracite; and, to burn anthracite, no such complicated contrivance is really necessary.

Mr. Griffin of Chancery Lane shows a very effective grate, into which air is freely admitted by perforated holes all round, and which is remarkable for the completeness of its combustion, for the facilities which it offers for warming the air of a whole room, and providing an equable warmth and ventilation. In principle, there is nothing new in this grate; but its details are good.

An excellent smoke-consuming grate is shown by Steele and Garland. It is not yet in operation, as it is being prepared for the testing houses; but it is evident to any skilled person, looking at the construction of this very simple and effective grate, that it will answer the purpose of abating smoke very thoroughly. It is very simple in construction, the purpose being achieved mainly by the division of the back into two chambers of thick pierced fire-brick, so arranged that the smoke generated in the top of the fire must be drawn down and passed through the flame of the coal.

A novel and simple grate is shown by Hoole. In this grate, the coal is put into the fire through a trap above in the hollow cheek of the fire-place; and the fire is also poked by a poker which passes through a hole in the side of the cheek. In this way, new coal passes always under the coal already in the fire-place; and this, being fed from below, presents always above and in front a surface of glowing coal; and in this way the production of smoke is, of course, greatly lessened.—*British Medical Journal.*

A New Method of Embalming Bodies and Preserving Tissues.—Dr. Virodtzeff *Balsamirovanie*, pp. xi., 164, St. Petersburg, 1881) recommends the following preparation as an efficient agent in the embalming of bodies and the preservation of tissues:

Thymol	5	parts.
Alcohol	45	"
Glycerine	2,160	"
Water	1,081	"

It is cheap, inocuous, free from unpleasant odor, possesses the property of keeping the body soft, elastic, fresh, and life-like, and does not ruin instruments. Thymol is selected as being superior to other antiseptics, and glycerine is added, both on account of its own preservative qualities and to retard the evaporation of the fluid. For the preparation of tissues the same solution is employed. If the cadaver be quite lean, or the tissues very delicate, equal parts of water and glycerine (1,620 of each) are combined with the above quantities of thymol and alcohol. To inject a body, half its weight of the fluid is necessary. A properly embalmed cadaver may be preserved indefinitely under ordinary circumstances, gradually shrinking and mummifying without putrefaction. Specimens are either to be injected with or macerated in this fluid. Maceration must not be too prolonged—the appearance of the specimen should act as a guide. The part, after having been thoroughly cleansed with water, and prepared, and may then be exposed for months to the air without losing its consistency, form and color. Permanent specimens may be enclosed in a hermetically sealed glass vessel containing a little of the same solution. Dr. Peabody has used this preserving fluid, with excellent results, in the New York Hospital Museum.—*Medical Record.*

Death of Professor Pirogoff.—The death of Dr. Nikolaus Pirogoff is announced by telegram from St. Petersburg. He was Professor of Surgery to the Medico-Chirurgical Academy in St. Petersburg, and a member of the consulting staff of several hospitals in that city. In 1840, he brought out a valuable treatise on the division of the tendo Achillis in orthopædic surgery. He also wrote on cholera, on the surgery of the arterial trunks and of fasciæ, and on the medical aspects of the Caucasus, and on topographical anatomy. His work on this last subject forms a fine atlas of anatomy, as illustrated by frozen sections. It is, however, with military surgery that his name will ever be most closely associated. He is the medical historian of the Crimean and Circassian campaigns; and also wrote a report on the permanent and improvised military hospitals in Germany and Alsace-Lorraine during the war of 1870. The late Professor is probably best known to Englishmen in association with one of the numerous methods of partial amputation of the foot. Last June, we announced the celebration of the fiftieth anniversary of his commencement of official life.—*British Med. Journal.*

Mr. Walter Whitehead of Manchester lately performed the triple operation of gastrostomy, tracheotomy, and excision of the tongue, upon a man suffering from an epithelioma, which had commenced in the tongue. and finally extended into, and blocked up the pharynx. The patient, we learn, is doing remarkably well, and expresses, in writing, great satisfaction at the result of the operation, and writes that he is now quite free from pain and independent of sedatives; whereas before the operation his sufferings were intolerable, and scarcely influenced by morphia.—*British Medical Journal.*

Mr. Beecher's Surgical Ability.—In a sermon delivered recently, Mr. Beecher said that; while he was not a surgeon, he felt sure that he could cut a man's leg off if necessary, for he knew how to tie up an artery and draw the flaps over. Blessed were the men who had a little of everything in them.—*Medical Record.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, January 14th, 1882.

The Week.

THE PROSPECTS OF CASES OF VALVULAR DISEASE OF THE HEART.—In a recent number of the *London Lancet* is a paper by Milner Fothergill with the above title, in which the author insists with great force, that the presence of a bruit does not mean necessarily that the patient in whom the bruit is heard is going rapidly to his grave. He points out that there are many cases in which a bruit is heard, and in which no valvular lesion is present; such bruits, for instance, as we have often associated with anæmia. In such cases, of course, a cure of the anæmia causes the bruit to disappear. But even in cases in which there is undoubtedly a valvular lesion present, it by no means follows that the heart cannot so accommodate itself to the altered circumstances as to allow the individual to live to a good old age.—This fact although known and spoken of in treatises on cardiac diseases, seems often to be lost sight of when a prognosis is made, so much so, that a diagnosis of heart disease carries with it an almost fatal prognosis. It would seem that the study of the pathological conditions in various organs, met with in persons who have died of valvular lesion of the heart, makes many look upon these conditions as the necessary accompaniment of every valvular lesion, and causes them to look upon treatment as of very little, if any avail.

The unfortunate result of such a mistake can hardly be overestimated. The patient, feeling sure that his life is to be cut off suddenly, lives in continual fear. And as years roll by and the fatal prognosis is not verified, the patient naturally comes to look on all opinions given by physicians as more than likely to be of little account. As the author says: "Every error of the kind carries with it a far-radiating influence of scepticism as to the accuracy of medical information as regards disease of the heart. For the sake of the profession; for the sake of the public who put their trust in us, it is desirable that such mistakes occur as rarely as may be."

Let it be remembered that every murmur of the heart does not mean a valvular lesion. And even when valvular disease is certain, that some forms of the disease are often carried for years without symptoms of great gravity.

The paper closes with a record of several cases in which persons with mitral or aortic disease lived for years without any bad symptoms, and some leading very active lives without difficulty.

Bibliography.

CHARCOT'S LECTURES ON THE PATHOLOGICAL ANATOMY OF THE NERVOUS SYSTEM: Diseases of the Spinal Cord."[1]

These lectures, as translated by Dr. Comegys, were first published in successive numbers of the LANCET AND CLINIC, and are here reproduced in book form. The translator has done a useful work in bringing before the American profession even this limited portion of the labors of the accomplished French physician, Charcot, and deserves the thanks of all of us. We have, however, to criticise his translation in this—that he has, in many instances, adhered too literally to the French language and its idioms with the effect of obscuring the meaning of sentences. A more liberal conversion into English would have contributed to that "economy of attention," which Herbert Spencer says must always be kept in view, in order to the construction of a "good style."

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[1] By J. M. Charcot, M.D. Translated by Cornelius G. Comegys, M.D. Cincinnati: Peter G. Thompson.

The interest in the author's elaboration of his subject is sustained from beginning to end, by his philosophic spirit, his logical methods and his fullness of knowledge. Beginning with the important points of the normal anatomy of the cord, he yet insists upon the confirmation which pathological anatomy brings to the study of the former. Adopting Vulpian's term of "systemic" or systematic lesions, he illustrates his understanding of the term by a brief review of the best known facts of the pathological anatomy of locomotor ataxia. Thence he goes to the description of the anatomical locality and distribution of the direct and crossed pyramidal fasciculi and draws the conclusion "that the pyramidal fasciculi can be considered as a sort of commissure reuniting the parts of the brain governing voluntary motion with the parts of the cord governing automatic life." He adopts largely the studies of Flechsig on this point.

The thesis of his first lecture is stated at the beginning of the second to be that "there exists in the domain of spinal pathology a certain number of diseases offering this remarkable character, that the lesion to which they are attached is fixed and cantoned, so to speak," in certain well defined regions of the nervous column; that these diseases constitute in some sort so many elementary affections of which the profound study should furnish precious documents for the classifications of affections more complex but not anatomically systematized." Instructive and pertinent facts for his purpose are drawn from the "anatomy of development" and still more minute details are given of the anatomy of the pyramidal fasciculi, because they are to form the foundation of most of the pathological and clinical studies which follow through several chapters. A point of interest is incidentally brought out—that of the variations of the intercrossing of the pyramids and their bearings or the production of "direct cerebral paralysis." He implies the correctness of Brown-Sequard's statements to some degree, but thinks they are exaggerated. Flechsig's classifications of these variations is given. The superior connections of the fasciculi in the internal and cortical parts of the brain are given in a clear exposition and then comes the question of secondary degenerations, which occupies several chapters. All the while their value not simply in a clinical point of view is given, but also their confirmation of the suggested anatomical relations of the fasciculi. We have not time to detail the steps of his demonstrations. The reader who follows them will become convinced of their important bearing on cerebral and spinal pathology. The clinical aspects of secondary degeneration and their symptology take up many pages of interesting reasoning, with valuable conclusions from all points of view. There are diagnostic studies following other questions of reflexes, tendinous, etc., and spinal trepidation are considered here. Charcot claims that some at least of these were known to and applied by him before the beginning of Westphal and Erb's researches.

Transverse myelitis, spasmodic dorsal tabes, spasmodic hemiphlegia of infants, tardy contracture of hemiplegia, spinal amyotrophies, infantile spinal paralysis, are some of the subjects following along towards the end of a very interesting work.

The demonstrations of Charcot have been much impeded by the imperfect reproduction of the figures in illustration. It is now becoming easy to find such engravings as are required for a volume like this.

The work of the publisher has been done in such a manner as to make it a pleasure to handle and read the book.

HARTSHORNE ON "ESSENTIALS OF THE PRINCIPLES AND PRACTICE OF MEDICINE."[1]

The fourth edition of this work was published in 1874. The seven years that have elapsed since then have been years of rapid progress in the medical sciences. In some branches many important additions have been made and views that were then recent have become antiquated. It was to keep pace with this advancement that the present edition was issued, and the author has endeavored to present as fully as is in keeping with the original design of his work, an outline of all the more important of these changes. In a few instances we could wish that he had given a little more prominence to some of the more plausible of the modern theories, upon which he is mostly silent. Yet the book is full of interest and instruction and shows great care in selection and arrangement.

One very commendable feature is the introduction of the metric system of prescribing, with full illustrations of its use. A large number of formulæ are also appended as guides in prescription writing, to which references are made by numbers throughout the volume. Then there is a chapter on aliments; one on disinfectants, and various other articles which add greatly to the usefulness of the book. In short, the work is itself one of the essentials of a good medical library.

J.M.F.

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[1] A Handbook for Students and Practitioners. By Henry Hartshorne, A.M., M.D., Editor American edition "Reynolds' System of Medicine," etc. Fifth Edition, revised and improved, with 144 illustrations. Philadelphia: Henry C. Lea's Son & Co., 1881. For Sale by Robert Clarke & Co.

ALL SUBSCRIBERS TO THE LANCET AND CLINIC will find it to their interest to also take the OBSTETRIC GAZETTE. The Gazette is especially adapted to the needs of general practitioners of medicine. It always contains the proceedings of the Cincinnati and other obstetrical societies. Its editorial management is at all times practical, and answers the requirements of the members of the profession.

Original Communications.

THE EFFECTS OF FOREIGN BODIES REMAINING IN THE EYE.

By Professor Theodore Leber,
of Göttingen.

Since the suprising results of the antiseptic treatment of wounds have shown that traumatic inflammations in general are the results of septic infection, it has become necessary to subject the effects of foreign bodies that have penetrated into the eye and remained there, to a thorough investigation as regards the question how many of the consequences that follow such injuries are due to the foreign body itself, and how many to the septic material frequently carried in with it.

I have undertaken to decide this question for the eye (which seems especially adapted for solving the query) with experiments upon animals. By numerous experiments made during the last few years, I have obtained the following results, which correspond well with my own and the observations of others upon the human eye.

The simple presence of a clean foreign body, i. e., one chemically indifferent and not infected with microbic germs capable of development, produces no inflammation within the eye.

Such a result might have been anticipated from the use of the gold, silver and cat-gut sutures in surgery, and from Wecker's so-called ocular drainage, in which fine gold wire is tolerated in the eye for weeks.

Still it is of interest to have been able to substantiate the absolute innocuousness of large pieces of gold wire and other substances remaining in the anterior chamber and vitreous humor of animals.

It is a surprising picture to see a piece of gold wire resting entirely free in the bottom of the anterior chamber where it has fallen after its introduction; or to view with the ophthalmoscope, one suspended in the vitreous humor, displaying in a beautiful manner its metallic lustre and no inflammation to be seen.

Spiculæ of glass behave in exactly the same way. I have a rabbit still living with a long slim spicula of glass visible for a year and nine months in a vitreous humor perfectly clear, with only some small injuries to the retina, or some circumscribed opacitics of the vitreous caused by the movements of the glass, visible in the fundus.

In the same way in the anterior chamber a similar spicula of glass remained over six months without any cloudiness, and then gradually became encapsulated only by a very delicate layer of connective tissue.

An observation by Critchett has taught us that small bits of glass are equally well tolerated in the human eye, where such a foreign body had lain for sixteen years in the anterior chamber without producing any consequences worth mentioning.

Though it may be of great theoretical importance to know that so delicate and sensitive an organ as the eye forms no exception to other organs and tissues of the body, as regards its behavior towards chemically indifferent foreign bodies, the practical value of this experience is very small, since the great majority of foreign bodies that enter the eye are not to be looked upon as wholly indifferent from a chemical point of view. A few cases of this kind, however, have been observed. Aside from the spiculæ of glass, already mentioned, we have seen small fragments of stone, cilia, thorns, etc., remaining in the eye for an indefinite period without producing any irritation. But we see in man far more frequently injuries from spiculæ of iron, steel, copper, brass, in short, such sort of metals as are capable of undergoing oxidation. The severe suppurative inflammation that ensues immediately upon such injuries has been tacitly ascribed to the action of the foreign body, *per se*, without investigating whether the same might not rather be dependent upon a simultaneous infection.

This possibility ought to be especially considered, since cases have been observed in which, after such injuries, not only has there been no severe inflammation, but especially no suppuration, although the foreign body was not indifferent to the eye, as was shown by subsequent development.

In animals it is not difficult to introduce into the anterior chamber, or vitreous humor, a piece of sewing needle, or sharpened copper wire, heated at red heat a moment before the operation, so that the small wound may close perfectly after it, and the foreign body remain no longer in contact with it.

These injuries also do not set up an acute inflammation, but may be followed by other severe consequences to the eye, chiefly to the retina.

In the alterations the eye undergoes under these circumstances we must distinguish the purely chemical action of the foreign body, which is also observed in the dead eye, from the manifestations which owe their development to the inherent qualities of the eye. We observe the chemical action in the vitreous humor most distinctly when a piece of steel wire has been introduced into it.

In the vicinity of this wire in the vitreous, a rust-colored thickening is formed, whose color is due to the finest granules of the oxyhydrate of iron.

The granules with increasing fineness are to be found still at some distance from the piece of metal; this can be explained in this way, that the absorbed carbonic acid in the fluid of the eye converts a small amount of the metal into a protoxide of iron, which spreads through the vitreous by diffusion, but is soon changed into an insoluble oxyhydrate of iron, and precipitates in the form of fine granules, while at the same time it very likely combines with the albumen that is present. The yellow-rusty color of the lens—in certain cases of traumatic cataract—which for some time has been known to indicate the presence of small pieces of metal, is developed in the same manner. The presence of such foreign bodies in the anterior chamber does not cause severe disturbances.

I have seen pieces of needles remain for months in the anterior chamber of rabbits without causing injury; they became incrusted with a layer produced by oxidation, and after a time were projected against the point of entrance, so that in one case I was able to seize the foreign body with a pair of small forceps and extract it after it had been a year and a half in the eye.

It is also known, from examples, that pieces of metal may remain in the human lens without injury to the eye (barring the formation of cataract).

On the contrary, however, much more severe damages result in the vitreous and retina, which may be observed with the ophthalmoscope during their entire development, since along with them no inflammatory changes occur, and the transparency of the cornea, lens and the greater portion of the vitreous remains unaltered; while the foreign body within the vitreous, either suspended or dropped to the bottom, gradually becomes surrounded with opake vitreous due to the oxidation already mentioned, which on ophthalmoscopic examination yields a bright glistening appearance; in a few days after the injury we see a widely detached retina, first in its medullated portion (speaking of experiments upon rabbits), and later also in its non-vascular and non-medullated portion; it is strongly pulled forwards, and appears partly lacerated, the edges of the tear being ragged, which, however, is not due to the injury, but, as it seems, partly to a high degree of softening and atrophy, partly to the retraction produced by the shrinking of the vitreous.

Microscopic examination shows that in connection with this, the retina undergoes acute atrophy; at the same time a great number of very large granular cells containing some oxide of the metal which has been brought in the eye, become imbedded in it, which are likewise met with in abundance in the vitreous, as also in the lens if the foreign body introduced into the vitreous has injured its posterior surface.

The retina at the same time shows in the first stage also, the following highly remarkable changes. The rods are in part considerably elongated; they grow into the cells of the pigment layer, reaching as far as the hyaline membrane, which lines the internal surface of the choroid. The cells of the pigment layer are much enlarged and show from their surface numerous rods lying in different directions enclosed in its substance.

The external granular layer is thickened here and there, the number of granules increased in places, the granules themselves changed in form and appearance.

I am of the opinion that the above-named changes are to be referred to the chemical effects the minute quantities of metallic salts dissolved in the fluids of the eye produce upon the retina, and which bring about certain vital processes in its tissue elements.

A few observations point to the appearance of similar consequences in man, if the foreign body has entered accidently pure and aseptic, an unusual occurrence.

Thus I have enucleated an eye into which, seven years before, a piece of iron had penetrated to the ciliary region, passing through the cornea and lens.

The primary irritation soon subsided, and two years after only a small adherent corneal cicatrix and traumatic cataract, but perfectly good perception of light, were found.

In subsequent years reddening of the eye, etc., occurred off and on with passing pains; then hemorrhage into the anterior chamber, rust-brown discoloration of the iris, loss of brilliancy, cloudiness of the cornea, the latter being dull and as if studded with brown dots.

After a few years, perception of light totally lost; again hemorrhage into the anterior chamber; the cornea became still more opake and of a brownish color; seven years after the injury the eye was removed.

The piece of iron was found in the region of the ciliary body; the lens was entirely absorbed; the retina totally detached and atrophic, but no trace of plastic exudation in the interior, the vitreous having simply disappeared, so the two layers of the detached retina rested against each other.

The rusty brown color of the cornea was due to the great vascularization and pigmentation, evidently the result of interstitial hemorrhages.

These changes differ so widely from those usually resulting from injuries to the eye by foreign bodies, and have such a similarity to the results of the experiments upon animals just mentioned, that we seem justified in viewing them from the same standpoint.

If in the experiments upon animals the necessary antiseptic precautions are neglected, there occurs here—as is the rule in accidental injuries in man—a suppurative inflammation in the interior of the eye.

I have, in such experiments when I examined the vitreous in a fresh state, found it saturated with numerous very fine movable bodies, which I could with certainty pronounce microbes (Microbien); I have also convinced myself of the occurrence of low organisms in traumatic suppuration in the human vitreous.

If then, after the entrance of a foreign body into the eye, or after injuries of the same in general, acute suppurative inflammation occurs, it must always be referred to infection.

As regards the action of these low organisms and injuries causing inflammation generally, I have made diverse series of experiments, of the results of which—to be brief—I will here only mention the following:

Since the simple presence of indifferent foreign bodies in the eye does not excite inflammation, so the action of the microbes can only be regarded a chemical one. We must imagine that these organisms, through their vital functions (Lebens-prozess) generate certain chemical substances, which act as excitors of inflammation upon the parts concerned.

There are known to be certain chemical substances that excite severe suppurative inflammation, for example, croton oil, cantharides, arsenic, some preparations of mercury, etc.

I have convinced myself by special experiments, that the effect is the same, if these substances are introduced into the eye perfectly pure and aseptic.

These substances, therefore, illustrate to a certain extent how we may explain the effects of these substances, which we regard as the products of the activity (Lebensthätigkeit) of the microbes.

I have also succeeded in setting up suppurative inflammation in the eye, by injecting extracts of putrid fluids whose micro-organisms had been destroyed by heat and other methods; this inflammation, as was to be expected, subsided after a certain time, because the irritating substances disappeared from the eye by absorption, and since here the living germs were not introduced by which these substances in other cases are constantly renewed.

The experiments mentioned above also cast a new light upon the pernicious effects of certain living parasites in the body of animals, especially in the eye, and in particular those of the cysticercus cellulosa. It is known, and I have confirmed it by my own dissections of diseased eyes, that these entozoa are capable of exciting suppurative inflammation in the parts about them.

Since here a participation of the microbes is not to be thought of, and since the simple mechanical action does not excite inflammation, we must assume here, also, that these parasites secrete a substance capable of exciting inflammation, which from analogy with the behavior of many other living parasitic organisms is extremely probable.

[The above article is translated from the original manuscript promised me in London last Summer at the International Congress and sent in the Fall. The translation was sent to the author for his revision.] W. W. SEELY.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of December 19th, 1881.

THAD. A. REAMY, M.D., *Pres't in Chair.* W. H. WENNING, M.D., *Secretary.*

Syphilitic Hemiplegia.

DR. GUSTAV ZINKE read the following interesting history of a case of hemiplegia occurring twenty-four hours after delivery, due to syphilis of the cerebral arteries and the meninges. In reporting this case he began with the description of the symptoms as observed during the patient's last illness:

"Mrs. X., æt. 25, married eight years, having had five children, of which two are living, the other having died during infancy; one (æt. eight years) of tubercular meningitis, and the last (æt. nineteen days) of inanition.

I was consulted about ten days prior to her last confinement concerning a persistent headache upon the right side of her head, which had troubled her for more than two months past, but never so severe as then. She being otherwise in a very fair condition, I prescribed pot. brom., grs. xx, and tr. belladonna, gtts. xx, to be taken every morning and evening, with very good effect.

On November 29th, at 5:30 a.m., I delivered her of an apparently healthy female child. Labor lasted about six hours and was normal in every respect. The placenta showed no sign of disease macroscopically. On the evening of the same day, although she felt well, I found her with a temperature of 102°, and a pulse of 115, full, regular, not intermitting. Her skin was very warm and wet with perspiration; the expression of her face good, appetite fair, tongue not coated, no pain anywhere except a slight tenderness immediately over the uterus; abdomen not distended nor tender to the touch, and the lochia flowed freely. Ten grains of quinia were administered. She passed the night quietly. Temperature at 8 a.m. next day was 100°, and pulse 96. Another ten grains of quinia were given. General condition about the same as the night before. The same evening the temperature had fallen to normal; she felt well and all seemed serene, but to make sure and prevent another rise in temperature, I ordered half the quantity of the dose of quinia previously given, when the mother firmly objected, saying, that after each tablespoonful she had given, the patient's right arm became always paralyzed. Examining the patient closely I found that there was still a want of ability to move that extremity with the natural freedom. The hand was with difficulty raised to her head, nor could she close it as firmly as the other. There also was paresis of the right side of the face, tongue deviated, I thought, slightly to the right; the eyes could be closed; no strabismus; pupils normal; no headache. She would answer every question intelligently; there was no marked alteration in articulation; but the indifference toward every thing and every body on her part made me for a moment doubt that all these symptoms were real, for at times, I was told, none of the paralytic symptoms could be noticed; that they had come on since, each time a little while after the medicine had been given, and I was credited with the cause of these symptoms.

Fortunately for myself I was familiar with the history of the patient, which gave me the key for the whole train of symptoms. Inquiring more particularly about the headache she suffered from prior to her present confinement, I was told that, occasionally while sitting at the table eating or, perhaps, being engaged in social chat with her family, she would suddenly raise up her head, turned to right, with all the muscles twitching on that side of the face and exclaiming with a muffled and indistinct voice: "O my, what is this!" These paroxyms were noticed about five or six times in all during the last two months of pregnancy. Under the circumstances no more quinia was taken. The following day no change, excepting that the paresis was more marked in the face and arm; no fever. On the fourth day, however, the paralysis was very distinct; the right lower extremity participated, and the urine as well as the bowels were discharged involuntarily: speech very much impaired, but no strabismus nor papillary disturbance and patient perfectly conscious. Consultation was requested with Dr. Richard and held. From the fact that I suspected a syphilitic affection of the brain, iodide of potassium was prescribed but not long continued, for the patient not only refused to take it from the beginning, but soon after was unable to swallow either the medicine or the food offered. On the seventh day the paralysis was complete on the whole right side of the body. While the temperature remained normal all this time the pulse was much accelerated. On the eighth day the temperature suddenly rose to 103·5°, pulse to 120. From that time on the patient was very quiet, speech was entirely lost and she lay upon her bed a living mass without the least motion or sign until she died on the tenth day after her confinement. Post-mortem was admitted the second day after death.

Before giving you the post-mortem appearance of the brain—for this was the only part I was permitted to examine—I wish to mention briefly the previous history of the case, for it was upon it that the diagnosis of a syphilitic lesion of brain was made, which is so well sustained by the specimen before you.

October, 1879, I saw this patient for the first time, she then was in confinement, having given birth to a healthy child which died in its eighth month of tubercular meningitis. She suffered then apparently from a suppression of the lochia. Her recovery was slow. When on her feet again she began to complain of pain in the vulva and also of very fetid and profuse discharge from the vagina. On examination I found a number of chanchroids upon the labiæ, the vagina was intensely red and swollen; the perineum had been ruptured in previous labor and there was partial rectocele; the uterus was in a state of subinvolution; the os patulous, eroded and filled with a purulent discharge. Under the use of copious vaginal injections and the application of calomel to the sores as well as subsequent applications of iodine—and the cotton plug, saturated with glycerine or tannin, to the os—she recovered. Soon, however, she returned with symptoms of secondary syphilis consisting at first of roseola, then a papular eruption of the accuminated type, and sore throat with mucous patches in the mouth. Treating her with mercury internally and externally she again seemingly recovered and became subsequently quite strong and assumed her former rotundity of figure. About six months ago after treating her for the local lesion she again presented herself with a tertiary eruption—ecthyma—upon the integument of the face, temples, scalp, forearms, and legs; some in groups, some isolated. Notwithstanding the so-called mixed treatment of mercury and iodide of potassium, new crops constantly developed for at least four months when they gradually healed off and once more the woman was discharged. This time she continued to be well as far as could be judged by her appearance. She again became pregnant about the latter part of last February. I saw her but seldom during that time and only when she consulted me about some other member of her family; she herself feeling and looking "pretty well," until I was consulted for the severe headache referred to in the beginning.

The post-mortem investigation was, as stated, confined to the head alone, and the brain was removed in haste because the whole family, excepting the husband, was opposed to the post-mortem and I had to take it away secretly and inside of half an hour. Dr. King kindly assisted.

Post-mortem rigidity was not present at all. Removing the calvaria with as much care as haste would permit I found that the dura mater separated easily from its bony attachments and that it was slightly adhering to the arachnoid of the right hemisphere near the junction of the Rolandic with the longitudinal fissures, running forward from that point about one inch and to the right side about one-half an inch; these adhesion must have been very recent because of its easy separation, not tearing the arachnoidean membrane when removed. Another striking evidence of an acute pia-arachnoiditis was the presence of a larger amount of lymph underneath the arachnoid commencing, too, at the junction of the Rolandic with the longitudinal fissure and running forward along the latter to the anterior border of the brain; being about one-half inch in width. The lymph exuded and accumulated in this region was so great as to give the whole the appearance of a blister and also hiding from view the convolutions below. Both anterior lobes showed evidences of active inflammation extending exactly from the fissuræ Rolandi above, running forward to the under surface to the optic commissure below, behind and outwardly along the Sylvian fissure on both sides, and also dipping into the longitudinal fissure between the hemispheres down to the corpus callosum. The hyperæmia was well pronounced over the whole exterior of the brain, both arteries and veins being highly injected, giving the brain an intensely scarlet red appearance. On the convex surfaces of the hemisphere were also noticed quite a number of small cheesy deposits which at first I mistook for spiculæ of bone, the result of sawing off the calvaria; but upon close inspection they were found to consist of a soft cheesy material. On section I found the gray substance to have assumed a brownish color which gave it a dirty tinge; the white substance, too, seemed to be of darker shade; no evidence of a gummatous tumor could be found; the blood-vessels, however, showed decided signs of disease and under the microscope it was found to consist of a granular degeneration of their internal coats. This condition was especially marked in the terminal branches of the middle cerebral artery of the right side and at the base in the circle of Willis. The ventricles were filled to their entire extent with bloody serum, and the choroid plexuses in the lateral ventricles were also studded with cheesy deposits.

While the history and post-mortem of this patient leave no doubt upon the nature of the case, there is yet one interesting point and that is: What or who was the cause of the original infection? The husband a highly respectable citizen (German descent) who appeared to me a good father and a faithful husband, frankly told me when questioned with regard to his ever having contracted syphilis, that two years before his marriage (now ten years ago) he suffered with an Hunterian chancre upon the dorsum of the penis immediately behind the corona. He was entirely well of it before he married and has not observed anything pertaining to constitutional syphilis since with the exception, perhaps, of a non-suppurative inflammation of the right middle ear with some impairment of hearing and the gradual loss of his hair of late, though he has yet quite a crop of it. He is very active, well built and nourished, indeed the last man in whom syphilis would be suspected. I examined the scar left by the chancre soon after his wife had been infected and also recently, but discovered nothing in the scar nor its neighborhood, that would cast the blame of the trouble upon him. Over three months had passed from the time of the last intercourse with his wife to the time the chancres were discovered which was three weeks after her second last confinement (the child of which died in its eighth month of tubercular meningitis). I am free to confess that from the beginning I have regarded the midwife in attendance at that time, as the infecting cause, for it was but a month before this that I observed a similar infection in another lady upon whom the same midwife was waiting.

A word of comment and I am done. Without the post-mortem I should have never known, nor could anybody have foretold the changes that were found in this brain. Symptoms of syphilitic lesion of the brain have been observed as early as six months after the initial sore. There is nothing especially new or peculiar in what I found, but I reported the case because this specimen is so rare in itself and many cases of syphilis in which quite as grave symptoms of brain lesion have been observed, not the least evidence of the existence of such lesions have been found post-mortem either macroscopically or with the microscope. In this case we have changes sufficient to account for every symptom prior to death. Possibly, too, the lethal exit of this case was hastened by parturition."

DISCUSSION.

Dr. Whittaker, in opening the discussion, remarked that the reporter of this case had the great advantage of being well-informed of the previous history, which greatly facilitated the diagnosis. Although the symptoms, as substantiated by the post-mortem appearances, placed the syphilitic nature of the disease beyond a doubt, a less familiar observer might have said that this was a case of Bright's disease. The symptoms as here related, convulsions, paralysis, loss of consciousness, etc., belong to this affection, which is not rarely the cause of puerperal eclampsia. The specimen shows the damage that syphilis may cause in the brain. This destructive process takes place, as is well known, in various ways, but most frequently is found in a diseased condition of the arteries traceable to a syphilitic atheroma of the vascular walls. No other cause could be given for cerebral hemorrhage except a miliary aneurism, which is favored by syphilitic disease. An ordinary cerebral hemorrhage is prefaced by the existence of miliary aneurisms and not by an atheromatous or calcified condition. In the speaker's opinion, however, the middle coat of the artery, from impairment of nutrition by way of the vaso-vasorum, was more likely to be the seat of this disease than the internal, thereby causing a bulging of that vessel. The appearance of the membranes in this case patched with a broad opacity, and the red softening of the brain beneath it, looked like a thrombus and infarction, and this was probably the pathology of the case.

The brain is not so frequently the subject of syphilitic changes as the cord. This may take place in the form of syphilitic sclerosis or the formation of plaques: individual, multiple or diffuse. Such a condition cannot exist long without also affecting the substance underneath, giving rise to a chronic myelitis; a softening occurs, or an occlusion of the vessels. Several points are of importance in syphilitic disease of the brain or cord, 1, the patient is usually not totally unconscious but semi-conscious; 2, the symptoms come on periodically; this periodicity was recognized by old clinicians, as also by the reporter of this case. But all other manifestations were here so profound as not to give suspicion to the existence of syphilis without a previous history. There are also two practical points of interest: 1, the failure of iodide of potash in relief of the brain symptoms of syphilis, the damage being already done; 2, the possibility of infection by a midwife who is subject to this disease.

Dr. Hottendorf said that this case reminded him of a similar one that came under his observation about two weeks ago. He was suddenly called to a lady who had twice miscarried before and was now in her third pregnancy at the fifth month. She was delivered while totally unconscious and in a condition of complete hemiplegia of the left side. There was little hemorrhage during the expulsion of the placenta. On account of a distinct history of syphilis previously communicated by the husband, large doses of iodide of potash were ordered, which, however, owing to the paralysis could not be swallowed by the patient. Injections of milk and beef tea were also made but they did not remain with her after two or three days. At the end of the sixth day the patient died.

Dr. Ravogli called attention to the fact that syphilitic meningitis has been but rarely described. Griesinger and Ziemssen each mentioning but one case, whilst Knorr of Hamburg gives three instances of the disease as having come under his notice. Its rarity is so great that its existence was formerly denied altogether until Knorr asserted its occurrence. Meningitis syphilitica particularly affects the pia mater. Usually syphilitic disease of the brain occurs at a later period after the infection—ten or twelve years—and is then due to the formation of gummata, which, however, in this case seem not to have been present.

Dr. Ransohoff remarked that the syphilitic lesions in the specimen exhibited were well defined both on the anterior surface and at the base. The bloodvessels at the base were not collapsed (as they ought to be) nor was the structure of normal consistence, but presented a condition of softening. It was his belief that a diseased condition of the arteries, endarteritis syphilitica, was not of such rare occurrence as meningitis syphilitica. The early lesions are not in the structure of the brain except secondarily, the primary manifestations being in the arteries. He differed with his friend, Dr. Whittaker, in the opinion expressed that the middle coat of the vessels was the seat of the disease; in the speaker's opinion it is the internal coat, the outermost layers of which are destroyed. There are certain points of difference in diseases of the arteries of syphilitic origin and the changes in the vessels due to old age. In syphilis the arteries show certain spots which, however, are not dilatations as atheroma, where the dilatation is nature's effort to prevent a rupture; but the reverse is found, namely, a contraction of the bloodvessel at certain points to such a degree that it is almost entirely occluded. In syphilitic apoplexy the loss of consciousness is not so complete, as there is not that break in the bloodvessels and consequent hemorrhage, as in senile apoplexy. The brain becomes softened from interference in its nutrition. There is nothing specific in the nature of this destructive process nor is it confined to the arteries alone, but there is neither aneurysmal dilatation nor calcification, which precedes senile apoplexy. He would ask if these natural changes might not be exaggerated, consequent upon changes occurring in the brain occurring during pregnancy?

Dr. Seely, having been asked if the presence of syphilitic disease could not be detected by means of the ophthalmoscope, replied that there was nothing except perhaps a disturbance of the circulation to be seen in the bottom of the eye; this was not diagnostic as it might be due to other causes which drive the lymph into the papilla.

Dr. Reamy said that he put this question because choroiditis was said to be an evidence of syphilis and neuro-retinitis a presumptive evidence of this disease; he thought therefore, if these two were absent we might exclude syphilis.

The remark made by one of the speakers that the conditions found may be due to an exaggeration of the natural changes occurring in pregnancy were well founded. In pregnancy we have the formation of osteophytes, changes in the dura mater and arachnoid and also in the left ventricle of the heart. Paracelsus and Hutchinson claim that the hereditary tendency will fix a field for the existence of syphilis in a child afterwards. Therefore the presumption is well-founded. The speaker thought that there were exceptions to the rule as laid down that in syphilis paralysis is not complete, he himself having seen unmistakable cases of complete paralysis. Different parts of the brain may become involved and consequently separate paralyses may exist, not confined to one particular locality so as to exclude other kinds of brain tumor.

The essayist gave six months as the shortest time in which syphilitic changes of this nature were established. The speaker thought that this, too, admitted of exceptions, cases of much shorter duration—two months—have been reported. The rapidity of the course depends on the individuality of the case. An interesting feature in the one reported was the birth of healthy children from a mother with such unmistakable evidences of syphilis. This fact is another proof of the justice of the statement that no one knows how syphilis will act in a given subject.

The possibility of communication of syphilis by a syphilitic midwife is a matter of grave import. He once saw a case where a midwife with a large practice plied her vocation during the time that she passed through the primary and secondary symptoms and delivered a woman shortly before she herself fell a victim to this dreadful disease.

Irreducible Scrotal Hernia relieved by Hot Water Dressings.

Dr. Hottendorf reported the following case: On Tuesday, December 6th, 3 p.m., he was hurriedly summoned to A W., laborer, aged 62, of medium height and weight, who stated that while at work on a new building he suddenly found a giving way on his right side. Soon after the accident he tried to reduce the hernia, for such it was, but failed. An examination, one hour after the occurrence, revealed a scrotal hernia hard to touch, ovoid in shape and having nearly the size of an infant's head. After placing the patient in a proper position, by lowering the head and elevating the pelvis, reduction was attempted but proved unsuccessful. He was next placed under chloroform and taxis again tried from time to time for about one hour and a half, but no headway was accomplished. The patient now complained of chilliness, nausea and severe pain in the right groin. Hot water dressings were then applied over the scrotum and along the right inguinal canal, to be renewed every five minutes. Recognizing the gravity of the case, and thinking that he would finally have to resort to an operation, the speaker left the house in order to call in medical assistance. On his return with a colleague, having been gone about three quarters of an hour, the patient joyfully remarked that only a moment before he first noticed an upward movement taking place in the right side, and that the hernia shortly after disappeared. This statement was verified on examination. Reduction was complete. On the following day he passed several ounces of blood per rectum. Complete recovery ensued in the course of a week.

The internal treatment consisted in the administration of morphia to relieve the pain and for the hemorrhage an emulsion of oil of turpentine, ℨj to a six ounce mixture, was ordered, of which half an ounce was given every two hours. The bowels being constipated for three days after the accident, a few doses of castor oil were given, which brought about free fecal evacuation. A truss was also recommended to avoid future trouble.

Dr. Ransohoff said that he would not criticise the treatment of the case but thought the reporter was very fortunate. Sometimes the intestine will return spontaneously after long futile efforts at reduction. He remembered one instance while he was interne at the Cincinnati Hospital, taxis was practiced a long time with no success on a man with strangulated hernia. It was decided to place him under ether, but before the speaker returned with the anæsthetic the patient had reduced the hernia by himself.

Another case: a lady, thirty-five to forty years of age, had a femoral hernia, which she had always been able to reduce, but at the time the speaker was called, it proved to be irreducible. It had the size of a fœtal head and felt as if the omentum was included. Taxis was tried, hot water dressings applied for three days and then taxis tried under ether, half an hour for each attempt. (In his opinion no attempt at reduction should be made for longer than half an hour at a time). An operation was suggested but not permitted and in five or six days the woman died.

Dr. Reamy thought that the elevation of the hips might frequently assist a return of the intestine in such cases. He saw a case with another physician some time ago where a femoral hernia resisted all attempts at reduction in twenty-four hours, the woman was placed in this position and when he returned the hernia was reduced.

CINCINNATI MEDICAL SOCIETY.

Meeting of January 3d, 1882.

GUSTAV BRÜHL, M.D., *President.*
W. H. M'REYNOLDS, M.D., *Secretary.*

Dr. Schwagmeyer reported the following case of

Epilepsy.

The patient, a married man about thirty-five years of age, had an attack of epileptic convulsions about three years ago for the first time. The seizure lasted long and the spasms were very violent, but the next day he seemed as well as ever and continued so for nearly a year when the convulsions returned. Since that time he has had frequent severe convulsions, and more frequent milder attacks of dizziness; of the latter the number varying from three to six per day. Even in these milder attacks of dizzyness the disturbance is so great as to compel him to catch hold of any near object to prevent himself from falling. He almost always has some premonition of the approach of a violent seizure. His fellow-workmen can generally tell when an attack is coming on by the change which the aura epileptica effects in his appearance. His appetite has always been good, but his bowels generally constipated, requiring a purgative every three or four days, then they become irregular, diarrhœa following constipation and the reverse. His tongue has been coated all the time. The urine was for a time highly albuminous, but now is not so; it has not at any time contained a trace of sugar; its specific gravity has always been very low, sometimes 1005, more frequently from 1012 to 1014, but never up to the normal standard. He is compelled to empty the bladder at least every hour, and if this is neglected he is sure to have attacks of dizziness and frequently violent seizures. After retiring the desire to urinate is not so frequent, though it calls him up once or twice every night. The quantity of urine voided has lately been measured and found to be very large, often as much as six pints in twenty-four hours, but sometimes not more than half as much. He is regular and temperate in his habits, drinks but little if any spiritoous or malt liquors, though in former years he was a moderate beer drinker. He has no pain, not much emaciation and no impairment of the mental faculties, except perhaps, a slight increase of irritability. But little cerebral congestion follows an attack unless it be one of unusual duration.

The point of irritation in this case seems to be somewhere in the urinary organs. He says he feels sure of an attack coming on when, for any reason he has neglected an admonition to empty the bladder, even though it contains but a few drops, and that the strange sensation commences in the region of the kidneys. There is no stricture, nor any other abnormal condition of the urinary organs that can be detected, unless it be slight hypertrophy of the bladder.

For treatment ergot was tried in drachm doses of Squibb's fluid extract and he thought it made him worse, in fact the attacks did seem to be more frequent. It was not given long enough, on this account, to test its power of diminishing the quantity of urine. Valerianate of zinc was given a full and fair trial and it had no effect. No remedy except bromide of potash in large doses has exercised any control over the disease. This seemed to postpone and abbreviate the severe convulsions but had no influence whatever upon the milder seizures. Its effect was only palliative and when its administration was intermitted the attacks returned with all their former, if not increased frequency and fierceness.

Dr. Stanton remarked that he would suggest a trial of ergot in smaller doses for a longer period of time. Given in this way it would be more apt to be tolerated and would probably have the double effect of reliving the polyuria and diminishing cerebral congestion. There can be no question about the effect of ergot in reducing the quantity of urine in diabetes mellitus and insipidus. Why then will it not have the same effect in such a case as this of Dr. Schwagmeyer?

MITCHELL DISTRICT MEDICAL SOCIETY.

The twenty-fourth semi-annual meeting of the Mitchell District Medical Society was held in the Court House at New Albany, Ind., December 28th and 29th, 1881.

The society was called to order at 11 o'clock a.m. by the President, Dr. G. W. Burton, of Mitchell. After roll call and reading and approval of minutes of last meeting, the President appointed the usual business committees and an informal discussion of the subject of vaccination, after which the society adjourned to the

AFTERNOON SESSION,

Which was called to order at 2 o'clock. The President, after asking the Society to excuse him from delivering the annual address at this meeting on account of want of time in which to prepare it, gave a brief synopsis of the subjects he would discuss in his paper. He will urge the enforcement of prophylactic measures against contagious and preventable diseases.

Dr. N. Field, of Jeffersonville, read a paper on "The Brain and its Relation to Insanity," in which he discussed the functions of that organ and argued that a person who is insane on one subject is insane on all others.

Dr. R. S. Rutherford, of Galena, read a paper on the subject of "Intestinal Obstruction," giving details of a case which he had recently treated.

Dr. T. M. Stevens, of Indianapolis, presented "A Practical Basis for a Bill to Regulate the Practice of Medicine in the State of Indiana," but from the diversity of opinion expressed in the ensuing discussion it appears that the profession cannot find a satisfactory basis for a law on this subject.

"Backache" was discussed by Dr. L. S. Oppenheimer, of Seymour, and the Society adjourned.

EVENING SESSION.

The Society was called to order at 8 o'clock and the President introduced to the audience Prof. E. R. Palmer, of Louisville, who delighted them for one hour and a quarter with his address on "Medicine as a Science." Dr. Palmer is a charming speaker and it must be a great pleasure to study physiology when one has so eloquent an instructor.

Dr. Stevens, of the State Board of Health, made a few remarks on the work done and in contemplation by that body, and the Society adjourned.

MORNING SESSION.

The morning session of the 29th was called to order at 9:30 o'clock.

Dr. W. H. Lopp, of Columbus, read an interesting paper on "Piles and their Treatment," giving history of the measures resorted to by the ancients for the relief of this troublesome malady. He then described the plan of treatment which had succeeded best in his hands, which is a modification of that adopted by Bodenhamer, of New York, and offered some objections to the practice of injecting them with carbolic acid or other irritants.

Dr. T. S. Galbraith, of Seymour, reported several cases of "Displacement of the Uterus," and the treatment by which he relieved them.

Dr. G. Q. Orvis, of Seymour, read a paper on "The Cause of Fever." Dr. Orvis believes that carbonic acid gas is the essential cause of fever and related some experiments made by him which he thought confirmed his idea.

A committee, of which Dr. Orvis is chairman, was appointed to investigate the subject and report at the next meeting.

Dr. R. A. Vance, of Cincinnati, addressed the Society on a medico-legal question, giving the particulars of a recent malpractice suit in which he thought an unjust verdict had been rendered.

Dr. S. H. Charlton read a paper on "Puerperal Septicæmia," which was briefly discussed.

After the election of members and the usual vote of thanks to the committees, the society accepted the invitation of Dr. E. Newland to visit the Star Glass Works.

The Society adjourned to meet in Mitchell, Ind., on the third Tuesday in June, 1882. Though the attendance was not so large as it should have been the meeting was a very pleasant and profitable one, and that it was so is due in great measure to the earnest and effective work done by Drs. King and Easley.

Dr. R. A. Vance was appointed to deliver a public lecture at the next meeting. Dr. J. L. W. Yost, of Mitchell, Chairman of Committee on Programme, and Dr. E. S. McIntire, Chairman of Committee of Arrangements. C.E.L.

Selections.

MEDICINE.

Dr. Ferrier's Localizations. — In 1870, Fritsch and Hitzig published an experimental research on the brain, showing that the cerebral substance was not, as had been hitherto thought, unsusceptible of excitation; and they demonstrated among other things, that electrical stimulation of the anterior parts of the brain produced movements on the opposite side of the body. Professor Ferrier laboriously and ably continued and extended these researches, and succeeded in ascertaining in a very exact manner that, in certain animals—dogs, cats and monkeys—the excitation of certain definite and limited areas of the external cortical layers of the brain invariably produce certain definite movements on the opposite side of the body. In his earlier experiments performed on dogs, cats and rabbits, (published in the *West Riding Lunatic Asylum Reports* of 1873) he ascertained that the anterior lobes of the cerebral hemisphere are the chief centres of voluntary motion and active outward manifestations of intelligence; he defined and localized the centres for the movements of the eyelids, face, mouth, tongue, ear, neck, hand, foot, and tail; and showed, that, in general, the action of the hemispheres is crossed, but that certain movements of the mouth, tongue, and neck, are bilaterally co-ordinated for each cerebral hemisphere; that the corpora striata have crossed action, and are centres for the muscles of the opposite side of the body; that the optic thalami, fornix, hippocampus major, and surrounding convolutions, have no motor significance, and are probably connected with sensation; that the optic lobes or corpora quadrigemina, besides being concerned with vision and the movements of the iris, are centres for the extensor muscles of the head, trunk and legs; and that the cerebellum is the co-ordinating centre for the muscles of the eyeball; and on the integrity of these centres depends the maintenance of the equilibrium of the body.

It would be difficult to overestimate the value and importance of these discoveries; but, when they were followed and confirmed, a little later, by similar researches on the brain of monkeys, the localization of function in the human brain —having been deduced from the study of the homologous parts of the brain of the lower vertebrates, and the almost identical brain of the monkey—was removed from the region of possibilities to that of scientific facts. These researches, coupled with an immense amount of pathological data collected by Charcot, Pitres, Hughlings Jackson, and many others in all countries, have culminated in the establishment of a cerebral topography of localization of function, which, though still disputed, and however much they may be modified by other researches, such as those of Goltz and Munk, must enter largely into the new physiology and pathology of the brain.

Briefly considered, the defined areas of cerebral localizations discovered and mapped out by Ferrier are as follows:

Much of the voluntary motor centres are grouped round the deep vertical fissure of Rolando, which passes from the summit of the hemisphere above to the horizontal fissure of Sylvius below; the convolution anterior to this fissure, the ascending frontal contains, in its upper part, the centres for the complex movements of the arm and hand, and, in its lower part, the centre for movement of the lips; the posterior half of the superior and middle frontal convolution is a centre for lateral movements of the head and eyes, with elevation of the eyelids and dilatation of the pupil; in the upper part of the convolution, which is behind the fissure of Rolando, the ascending parietal convolution, is the centre for voluntary movement of the lower limb, and lower down are centres for the movements of the hand and wrist; the posterior extremity of the third left frontal convolution is, as had been previously established by Broca, the centre of speech, and, as further demonstrated by Ferrier, the motor centre of articulation. Behind the ascending parietal convolution, in a spot called the supramarginal lobule, are the centres of vision; still more posterior is the centre of hearing; the centre of smell is located in the uncinate gyrus; near it is the centre of taste; and touch is located in the hippocampal region. Ferrier showed, moreover, that the optic lobes, or corpora quadrigemina, are not only closely connected with the function of sight, but are also the centres of equilibriation and of certain emotional expressions; and that the cerebellum, while mainly concerned in the preservation of equillibrium, is also a centre for associated movements of the eye, and of various muscular adjustments which aid in maintaining the equillibrium of the body.

These are, briefly stated, the main results of Professor Ferrier's researches; and to the physiologist and physician they are, by mapping out the brain, as invaluable as a chart of an unknown region would be to an explorer.

It was not long before physicians and surgeons began to take advantage of these new data. They found in them an explanation of many of the pathological experiments practiced by that arch-vivisector Nature; and discovered that some of the diseases of the brain hitherto considered incurable, were susceptible of amelioration, or even of cure. We will mention a few examples of the recent application of cerebral localization to medicine, among a great number. A child (*Fall von Hirnabscess bei Courvoisier Correspondenzbl. schuvez. Aertze*, No. 1, January 1st, 1879,) two and a half years old, had a slight fall on the left side of her head, to which, however, no importance was attached; a week later the child was seized with vomiting, pain in the head, and paralysis of the right leg and arm, followed by ptosis and strabismus; the next day there was complete right hemiplegia, with left facial paralysis and loss of consciousness. The paralysis pointing, according to Dr. Ferrier's localizations of functions of the brain, to injury or disease of a certain definite spot; the skull at this point was, therefore, laid bare, and a depressed fracture was discovered. The piece of depressed bone was removed, giving exit to a quantity of pus; a consciousness and power of movement of the paralyzed limbs returned a few hours after the operation, and the child eventually recovered. A man who had been struck on the left side of the head with a stone immediately became unconscious; and on recovering consciousness, was found to have become completety speechless, or aphasic, without paralysis. Some time later, he came under the care of Dr. Hammond, of New York (*Diseases of the Nervous System*, seventh edition, p. 209), who diagnosed from the symptoms fracture of the internal table of the skull and pressure on the posterior part of the third frontal convolution. The spot thus indicated by the localization of the lost function of speech was trephined by Professor Sayre, and, as diagnosed, the internal table of the skull was found to be fractured and a splinter pressing on the convolution named. The fragment was removed; and as soon as the patient recovered from the ether, he spoke perfectly well. We will give but one case from a great number of traumatic epilepsy. A child, aged seven, received a blow from a poker; it produced no external wound, and no scar or depression of bone remained. A year later, the child had an epileptic fit, and continued to have fits daily for about seven years, with occasional periods of exacerbation, at which time the fits increased to twenty or thirty a day. At the end of this time Dr. Ferrier was asked to see the child in consultation; tenderness was found over the right parietal region, with loss of power in the left hand, and indistinct utterance from loss of muscular power in the lips. Trephining was decided upon, and Dr. Ferrier pointed out that the seat of trephining should be rather low down, to correspond to the centres in the brain for the arm and lips, which seemed affected. This was done; for eight weeks after the operation, the child was free from fits, and though at the periodical exacerbation the fits returned, yet with always diminished severity, (*British Medical Journal*, October 16th, 1880). These cases might be multiplied greatly. In the *Glasgow Medical Journal*, (September, 1879.) is reported a case of right hemiplegia and convulsions, due to tumor of the dura mater pressing on the motor centres of the left brain, diagnosed by aid of cerebral localization, and cured by removal of the tumor. In *Brain* (October, 1881,) in a case of left hemiplegia, due to abscess of the brain, the situation of which was indicated by knowledge of the motor centres of the paralyzed limbs; the skull was trephined, and the abscess opened and emptied. the patient ultimately recovering. Dr. Echeverria has collected 165 cases of traumatic epilepsy, of which 64 per cent were cured by trephining, the site for the operation and the exact nature of the lesion being indicated by cerebral localization.

But, apart from these cases of direct surgical interference, which, but for a joint confidence which a knowledge of cerebral localization gives, would be left to live or die equally miserably, the influence of exact knowledge of the brain is felt in the treatment of mental and nervous diseases. Time was, and not long ago, when insanity was looked upon by the physician, as it now is by the vulgar, not a disease of the brain-tissue, often capable of cure, but as an incomprehensible affliction of the impalpable mind, before which the physician and surgeon are therapeutically powerless. Thanks, however, to scientific research, brain-tissue has been found to be not only capable of regeneration as many of the other structures of the body, but even more so; and stimulation, electrical and therapeutical, of degenerated centres of localized function may, and in fact often does, lead to recovery. In an interesting paper by Dr. Althaus, in *Brain*, April, 1881, cases are given of the application of the constant current, with very happy results, to those parts of the brain which, from the symptoms considered in connection with cerebral localization, were known to have undergone morbid change. This comparatively untrodden path opens a new vista of the cure of nervous diseases.

In therapeutical researches, also, the effort at the present day is to discover and define the localized action of drugs; and in this direction also the study of cerebral localization opens out to us a fair prospect of being able to treat various forms of insanity and acute nervous diseases, due to local causes, on a rational basis. Dr. Ferrier's recent research on the localizations of atrophic paralysis — showing how atrophy of certain groups of muscles which are associated in action is due to localized lesions in the spinal cord— point the way to fresh improvement in the treatment of each lesions.

Indeed, the outcome of the minute and faithful study of the functions of the brain cannot be estimated, so great are the already achieved, and so much greater the probable benefits; so vast the importance of knowing the working of the great organ of the mind and centre of the movements and sensations of the body.—*British Medical Journal.*

ERGOTINE IN PHARYNGITIS.—*La Revue mensuelle de Laryngologie* speaks highly of the following as an application in cases of chronic pharyngitis, in which we have an excessive muco-purulent secretion and an enlargement of the blood vessels of the pharynx:

Ergotine,	1 gramme.
Tincture of Iodine,	4 grammes.
Glycerine,	30 grammes.

M. Sig. To be applied freely to the pharynx twice a day.

THERAPEUTICS OF OL. SANT. FLAV.—It is desirable to know, if we are to aim at precision in therapeutics, how much and how little we must depend on the various remedies we employ, and at what stage of the various diseases they yield most benefit.

The Ol. Sant. Flav. has been employed largely now for the last twenty years in the treatment of gonorrhœa and urethral and vaginal discharge generally; but I am not aware of any published results. Various notices are to be found throughout the journals, but I cannot find any attempt to array statistics for or against its use. Dr. Cowan, late Professor of Materia Medica in Glasgow University, stated to his class some years ago that he had found it fail in a series of cases in which he tried it. Probably the same result might accrue after the use of any remedy in any series of cases for which it might be indicated, *e.g.*, ipecacuanha in dysentery: if a *prompt cure* were to be regarded as the criterion of success.

In prescribing we must bear in mind the proper *role* of a remedy, and what it is we design it to do. If we expect it to do more than experience teaches us is its proper function of course we will fail—except by chance. We give ergot to stop hæmorrhage, but do not expect it to cure the pathological condition giving rise thereto— at least, not necessarily: ipecacuanha to promote expectoration, but not to cure the bronchitis—at least, not unaided. And so on.

With reference to Ol. Sant. Flav. it is no use prescribing it for the purpose of *curing* a gonorrhœa, if by the term is meant the urethritis or other pathological condition causing discharge. The latter, however, is the most troublesome symptom—that which the patient is most anxious to get rid of at once; and for this purpose the Ol. Sant. Flav. is distinctly the most specific drug I am acquainted with. It restrains the "running" at once, very frequently stopping it in course of forty-eight hours; but it requires to be continued for *quite a fortnight after entire cessation of discharge* to make sure the latter does not return. It produces these effects in the most acute and the most chronic cases alike.

As happens with most other remedies, however, there is a residuum of cases where it does not act so promptly, and in these cases there is no use continuing it, at least for the time. If within forty eight hours the "running" is not arrested, another drug should be tried or therapeutic procedure adopted.

The difficulties in the way of arriving at a wide generalisation as to the value of any method of treatment of the disease in question, arise from the patients not being under continuous observation; very often being only once seen and result not obtained. Then there is the *post-hoc-propter-hoc fallacy.*

Two cases under treatment within the last two years in my practice are selected as indicating better than most others the use and the uselessness of Ol. Sant. Flav.

No. I. came to me two years and a half ago with a gleet, which he said he had had for eighteen months. He said he had been to various medical men, and had himself read up the subject and tried numerous remedies, but all to no effect. I thought it useless therefore to go over the routine remedies, and so passed a large bougie smeared with a liniment of vaseline and Ol. Sant. Flav. and repeated this every third day, for some time. He had also a mixture of steel and cantharides. After a reasonable trial of this line of treatment, and no improvement, the silver nitrate bougies were tried, one being used night and morning, in conjunction with a mixture of henbane and potash; the bowels being also regulated. At the end of two months in *statu quo ante:* and I then said to him I felt quite sure he had not given Oil of Santal a fair trial previously, and at once put him on twenty-drop doses three times daily, before food. On the third day of this treatment, he returned, saying that the discharge had entirely ceased, and asking why I had not given him that remedy at first! Of course I reminded him of what he had told me when he first came under treatment, and he was satisfied.

The patient applied to me last November, 1880, having, unfortunately got a fresh gonorrhœa. He was placed on a Santal mixture which restrained the discharge at once, and stopped it entirely within a week. He continued the mixture, however, for a fortnight thereafter, when, thinking himself well, having been perfectly dry for more than ten days, he omitted it. Much to his disgust the discharge returned during a journey to London, and the Ol. Sant. Flav. failed entirely to check it as it had done previously. Recourse was now had to various combinations of copaiba, cubebs, steel, and cantharides, but still the "running" was unchecked. Injections also had a trial, but seemed to make matters worse. About the beginning of April, at the patient's own request, a recurrence was made to the Ol. Sant. Flav. The discharge was at once arrested, a modification being noted after the first dose. The drug was, however, persevered with for two weeks, in order to make sure of the cure this time. At the end of this time it was stopped, but the discharge again appeared, only faintly. The remedy was therefore again used and bougies smeared with it were passed every second day for another fortnight, at end of which time all medication ceased and the patient continued well.

No. II. came to me in September, 1880, suffering from retention. He had been under treatment of an unqualified person for some time and had been using injections. The "running" was unchecked, and he had made no water, save in dribbles, for thirty-six hours. With some little difficulty I passed a No. 7 catheter, and drew off rather more than a pint of urine. The cause of retention was an inflamed and enlarged prostate. Next day he was laid up with a swollen testicle and cystitis, and, as these began to ameliorate, the other testicle became inflamed. During treatment for these complications, the "running" which was most profuse, was not heeded. As soon as the complications were subdued, however, he had fifteen drops of Ol. Sant. Flav. every six hours, with the effect of checking the discharge, and arresting it in forty-eight hours. On the fifth day I was informed that the discharge was gone. When the patient got about again, however, and reduced the dose of the oil, it reappeared again, disappearing when he took larger doses. After a time various other drugs were administered, various injections and bougies have been tried, but the "running" continues till this day. If he takes the oil in fifteen-drop doses thrice daily for three days, he can reduce the discharge almost to *nil*: but when he leaves off it begins again as fresh as ever.

In by far the greater number of cases, nevertheless, the discharge does not reappear, provided the remedy is continued without intermittence and in full dose for a fortnight after the very last appearance. The average duration of cases treated by this method may, therefore, be broadly stated as three weeks. Twenty drops is a full dose, as this quantity invariably produces griping of the bowels and dull lumbar aching.

As to its *modus operandi*, I believe it ought to operate in two ways; one, upon the pelvic and genital nervous system (neuræsthetic?) and the other upon the suppurating surface—antiseptic, or perhaps more properly, contrapurulent. It also appears to be a special stimulant to unstriated muscular fibre, and in this way probably constringent. Indeed, the properties of the oil in arresting urethral discharge were originally discovered by the fact that a man to whom it had been administered for diarrhœa got rid of a "running" at the same time; and reputedly by the same means. Whatever the *modus operandi*, it certainly has a drying effect upon all the mucous surfaces, when healthy or diseased. It arrests the discharge even from a strictured or tender spot in the urethra; though, as mentioned above, it will not, and cannot be expected to remove, the stricture of thickening.—R. Park, M.D., in *The Practitioner*.

POISONOUS SYMPTOMS FOLLOWING THE APPLICATION OF A RUBBER MASK.—In the *Journal de Med. et de Chir. pratiques*, Dr. Jules Simon reports a case of a child who on account of impetigo of the face had applied to it a mask of rubber. In a short time the infant was seized with vomiting, diarrhœa and an extreme prostration which could not be explained. The rubber mask was removed and the dangerous symptoms rapidly disappeared. It is probable that the child suffered from poisoning by sulphide of carbon with which much of the rubber cloth is permeated. When, instead of rubber cloth, laminated gutta-percha was used, the symptoms of poisoning did not appear.

CRYSTALLINE BETTER THAN POWDERED IODOFORM.—Dr. Brockman, of Zossen, makes to the *Meditin. Neuigk.*, Dec. 10, 1881, the following communication regarding iodoform:

There are, as is well known, two kinds of iodoform, the coarse with small glittering crystal plates, and the finer so-called displaced powder of duff yellow appearance in which crystallization is hindered *in statu nascenti*. This last powder form resembles calomel in the fineness of its individual granules.

It has occurred to me, since I have used iodoform in every possible range of application, that the coarse crystalline form has decided advantage over the fine powder. I have come to this conclusion more especially after having made fifteen control experiments in the treatment of chronic ulcers, bone ulcers, bubo ulcers and indolent chancre ulcers.

In all my cases, and especially in the fifteen cases referred to, marked changes occurred as soon as the coarse crystals were used. The elevated borders levelled down more speedily, the granulations became more luxurious, and the healing process set in more quickly. In one case of chronic bone ulcer where I first used the coarse powder and when after the ulcer had healed, it reopened and was treated with a fine powder, the patient said to me "This is not the powder I had before, it has not the same effect, I would prefer the other as this is of no value."

Another advantage of the coarse powder is that it does not make the dressings charpie and lint stick to the wound as the fine does.

From theoretic considerations I might say also that the fine powder is much more readily absorbed, a disadvantage where great surfaces must be treated over a long time.

Finally, if I am not mistaken the price of the fine powder is greater than the coarse.

It is well known that opinions are much divided as to the value of iodoform in the treatment of wounds. It is possible that this discrepancy of opinion is due to the difference in the substance used. I would be glad if my colleagues would make observations upon the varieties of iodoform and communicate them to me. J.T.W.

How to Give Tannin.—This useful astringent often yields unsatisfactory results when administered in powder or simple solution, either failing of effect or producing pain and other signs of irritation of the stomach or intestines. We note in a German exchange, that at the Leipzig Policlinik all these unpleasant results are avoided and a very useful and agreeable astringent mixture, well suited to children, is prepared by forming an albuminate of tannin, according to the following formula:

℞ Tannic acid, 2 parts.
Water,
Solution of one white of egg āā 100 parts.

The last mentioned is to be added with stirring briskly.—*Med. and Surg. Reporter.*

Rectal Exploration and Diagnosis.—Dr. Charles B. Kelsey, New York (New York Med. Journal and Obstetrical Review, October, 1881), gives several valuable suggestions and the descriptions of some original methods in rectal exploration and diagnosis. After referring to the many errors which arise in this department of surgery from the lack of care and proper examination, he tells how to make a rectal examination which shall be at the same time thorough and as free from pain as possible. In his own practice he uses an artificial light of his own arrangement and a forehead mirror, which enable him at all times to illuminate the rectum thoroughly, while by the side of the examining table stands an instrument-case fitted with all necessary appliances. He insists strongly on the necessity of having a water-closet communication with the office, so that injections may be administered and the bowels moved at the time of the examination. In the matter of specula, he confines himself almost exclusively to Sims', finding this the best of all after the sphincter has been stretched, and not finding any that give a fair view of the parts until this has been done. He relies most upon the finger for a diagnosis, and claims that with it, after the necessary skill has been acquired, the slightest pathological changes may be detected. In the matter of bougies, he recommends a soft rubber instrument, similar to Wales, only more flexible. For detecting strictures high up in the rectum or in the sigmoid flexure little confidence is to be placed in a bougie of any sort, and he relies almost entirely upon manual examination either through the abdominal wall or by passing the hand into the rectal pouch. The latter method he holds to be free from danger, and certain in its results.—*Chicago Medical Review.*

Muriate of Ammonia as an Anthelmintic. Dr H. L. Getz, of Iowa, writes to us, recommending this product as an anthelmintic. He says:

"In prescribing it as part of a cough mixture, it was discovered that an anthelmintic effect was produced upon a child which had been taking the cough mixture, and feeling satisfied that if the mixture contained an anthelmintic, it must be the hydrochlorate of ammonia, I, therefore, resolved to test it, and have done so with good results.

"Dose for a child five years old, five grains, about .30 gram. in water or syrup, three times a day, before meals."—*Med. and Surg. Reporter.*

SURGERY.

Sponge-Grafting.—In a paper "On the Process of Healing," by D. J. Hamilton, M.B., published in the *Journal of Anatomy and Physiology*, volume xiii., 1879, the author advanced the view, substantiated experimentally and otherwise, that the blood-vessels of a granulating surface are not newly formed, but are simply the displaced superficial capillaries of the part. In making these investigations, his attention was arrested by the similarity of the process of vascularization as it is witnessed on granulating surfaces, and as it takes place during the organization of fibrinous exudation and blood-clot. Starting with the idea that blood-clot and fibrinous lymph play merely a mechanical or passive part in any situation where they become replaced by a fibrous cicatrix, that their vascularization is due to a displacement and pushing inward of the surrounding blood-vessels, and that, before organization, they are so much dead matter in the tissue, he resolved to experiment with some dead porous animal tissue in order to determine whether this might become vascularized and replaced by cicatricial tissue. Sponge properly cleaned, carbolized, and deprived of its siliceous and calcareous salts, was selected as best answering the required conditions. A series of experiments, executed both upon human subjects and animals, demonstrated the truth of Mr. Hamilton's assertions. In one instance sponge-grafting was performed on an ulcerated wound, probably specific, situated on the outside of the left leg, circular in shape, and measuring five inches in diameter, and from one-half to three-quarters of an inch in depth. Several pieces of sponge were introduced, and made to accurately fill up the wound; antiseptic dressings were employed, and antiseptic precautions observed in the treatment.

After six months, during which potassium iodide was administered, the sponge had entirely disappeared, and there remained merely a superficial, typically healthy suppurating surface, measuring one and one-half inches in diameter. In this experiment it was proved that, if a sponge be placed over a granulating surface, its vacuoles will in the course of time become filled with blood-vessels and cicatricial tissue, and ultimately the whole sponge will disappear in the wound, leaving an organizing mass of new tissue in its place. The vacuities of the sponge appear to be particularly adapted for allowing this, and the framework of keratode affords support to the young vessels formed within it. It was demonstrated furthermore, that even a putrescent condition of the wound will not prevent organization. Putrefaction destroys a blood-clot, but does not seem to affect the firmer textures of the sponge. After detailing his highly interesting experiments, and considering, in a masterly way, the process of organization as it occurs in blood-clot, fibrinous lymph, sponge, etc., the author offers some practical suggestions. The porosity of the body employed as the medium for the construction of new tissue must be such that all the canals freely communicate. Sponge answers this requirement, but the author thinks charcoal or calcined bone might be used in certain cases, especially where the prevention of cicatricial construction is aimed at, a solid framework must be employed. A dead body thus incorporated with the tissue is not of itself an irritant, but only becomes so by its injurious application, or the introduction with it of septic matter. A solid framework would be particularly useful in the formation of bone. Sponge or other framework must only be used for *filling a vacuity*, else it will cause inflammation, as when it is thrust between two portions of a muscle without a portion of the muscle being excised. Again, it should always be rendered antiseptic. The only objection against its adoption, which the author perceives, is the somewhat long time required to organize it, but he thinks that, after the sponge has become fixed, the patient might be allowed to go about, if practicable, and that this in certain cases might actually exert a beneficial influence upon the organizing power of the tissues.—*Edinburgh Medical Journal*, November 1881.

THE FREEZING CURE.—By means of freezing parts may be rendered wholly insensible to pain, so that slight surgical operations may be easily performed. When the freezing is long continued the frozen parts may lose their vitality entirely, which will cause them to slough away. By this means excrescences, as warts, wens and polypi, fibrous and sebaceous tumors, and even malignant tumors, as cancers, may be successfully removed. Small cancers may sometimes be cured by repeated and long-continued freezing. Their growth may certainly be impeded by this means. A convenient mode of application in cancer of the breast is to suspend from the neck a rubber bag filled with powdered ice, allowing it to lie against the cancerous organ.

Freezing may be accomplished by applying a spray of *ether*, by means of an atomizer, or by a freezing mixture composed of equal parts of pounded ice and salt, or two parts of snow to one of salt. Mix quickly, put into a gauze bag and apply to the part to be frozen. In three to six minutes the skin will become white and glistening, when the bag should be removed. Freezing should not be continued longer than six minutes at a time, as the tissues may be harmed, though, usually, no harm results from repeated freezing if proper care is used in thawing the frozen part. It should be kept immersed in cool water, or covered with cloths kept cool by frequent wetting with cold water, until the natural feeling is restored.

Felons may often be cured, especially when they first begin, by freezing two or three times. Lumbago and sciatica, as well as other forms of neuralgia, are sometimes almost instantly relieved by freezing of the skin immediately above the painful part. We have cured some obstinate caces of sciatica by this means after other remedies had failed.—Dr. J. H. Kellogg, in *Physician and Surgeon*.

EXTIRPATION OF THE LARYNX.—Professor A. Ceccherelli has published recently (*Lyon Medical*) a short account of the operations for complete or partial extirpation of the larynx performed up till now, with a statement of the results obtained. The operations included in the list amount to thirty in number, of which twenty-five were cases of total extirpation, and five cases of partial resection. The operation has been performed eighteen times for a carcinoma. In twelve other cases the tumor was either not of a malignant nature, or the nature of the lesion for which the operation was undertaken was not recognized. Of these thirty cases, cure is said to have been obtained twenty times; and in the twenty-five cases the result is unknown. Twenty of the individuals, however, who recovered from the operation, succumbed later with symptoms of early relapse. The final result, then, shows eleven undoubted cures, or, at least, considerable prolongation of life, and one doubtful case. Prof. Ceccherelli's conclusions are the following: 1. Extirpation of the larynx is an operation henceforth included in surgical therapeutics. 2. It is best carried out by the thermo-cautery. 3. It should be reserved for those cases in which the lesion is not too diffused for the successful attack of the surgical knife. 4. Tumors of a malignant nature are not suitable to the operation. 5. The operation is very admissible in cases of carcinoma, but only when it is limited, and when the case is not one of soft cancer, and the disease has not yet produced general inflammation.—*Medical and Surgical Reporter*.

EXTROVERSION OF THE BLADDER.—Glück and Zeller have experimentally removed the urinary bladder and the prostrate gland from dogs without fatal injury following. Encouraged by these experiments, Professor Sonnenburg has operated upon a boy, nine years of age, for *Ectopion vesicæ*. In this malformation, the anterior wall of the bladder is wanting. The posterior wall presents itself, as a round, convex, elastic, velvety prominence. At the lower part of this protusion, two oblique, convergent slits, the openings of the ureters, may be seen, whence urine is constantly trickling. The surface is very sensitive and bleeds when touched.

With ectopion in the male, epispadias is often associated. In both sexes defect in the pubic symphisis may be observed, which gives those patients a waddling gait.

Various mechanical contrivances have been devised, with the object of protecting the exposed bladder and to receive the urine, but they have failed to accomplish the desired end.

A plastic operation was successfully performed by Prof. Daniel Ayres, of Brooklyn, upon a female subject, which furnished a double integumentary cover for the bladder, taken from the abdominal surface.

The plan adopted by Prof. Sonnenburg is not only simpler, but also gives a natural channel for the escape of the urine. He cuts around the bladder and dissects it off from the subjacent peritoneum, care being taken not to injure the ureters, into which probes have been introduced at the outset. The ureters are finally attached to the urethral semi-canal. The defect in the parieties is covered by the adjoining integuments united by sutures. The wound closed almost entirely by first intention.—*Berl. Klin. Woch.*

INTESTINAL OBSTRUCTION BY WINE BOTTLE. The patient having seat worms was in the habit of introducing butter into the rectum to destroy them. One day, to push the butter further, he laid it on a piece of paper on the mouth of a hock bottle, and then sitting on this gradually introduced the bottle (which tapered from its base to its mouth) entirely within the rectum. Unsuccessful attempts were made to withdraw it. The mouth of the bottle could be detected on the left side of the abdomen near the short ribs. An incision under chloroform made backward between the coccyx and tuber ischii allowed more room, but still there was no success, although all sorts of forceps, cords, etc., were tried. Next day the symptoms being urgent, the abdominal wall was cut through in the left linea semilunaris, the bowel opened in the descending colon and the bottle drawn out. The wound in the bowel was closed by a continuous cat-gut suture, and the patient rallied well at first, but sank and died next day. — London Letter in *American Practitioner.*

SURGICAL TREATMENT OF EMPYEMA.—The subject was introduced by Dr. C. Gerhardt (Würzburg), who first reviewed the opinions of the earlier writers on the subject. Passing to the practical side of the question he expressed the belief that a small empyema might be cured spontaneously by absorption; another favorable termination was by expectoration, after a spontaneous opening into the lung; after two or three weeks of purulent expectoration, such cases got well. As to operative interference, he found that a single aspiration sometimes resulted in a complete cure; a method which has been found useful consisted in replacing the pus withdrawn by some indifferent or antiseptic fluid, without the admission of air to the chest. He advocated the free opening of the chest under antiseptic precautions; and thought that to wash out the pleura was not free from danger. Very early childhood gave less favorable, the middle period of childhood more favorable, results than adult age.

Dr. Ranke (Munich,) thought that in children an empyema comparatively seldom opened into the bronchi; this, he thought, was the most favorable termination. He made use of incision, with antiseptic precautions, and under this system found that his patients generally remained about six months in hospital.

Dr. Jacobi (New York,) had seen three cases of empyema in infants, one containing as much as twelve or thirteen ounces, in which recovery had occurred after a single aspiration.

Mr. F. Richardson Cross (Bristol,) thought that the early removal of pleuritic effusion was necessary to insure the re-expansion of the lung. He advised an incision in the eighth or ninth intercostal space, with antiseptic precautions, if aspiration failed after two trials. He had recently had three very successful cases treated on this method. One of them was a most unfavorable test in a girl, aged eight, but recovery ensued in seven weeks.

Mr. R. W. Parker (London,) said that as the question of treatment must very much depend on the mechanical condition of the chest, it would be well to divide empyemata into two chief classes, viz: 1. As found in children; 2. As found in adults. Whatever method of treatment was adopted, no favorable result could be expected unless the conditions regulating chest-movement assisted. The cavity of the empyema could not be emptied unless the lung could re-expand, or the chest-wall fall in. In children these conditions were present more commonly than in adults; hence the disease in them was serious. In old people, whose chest-walls were very rigid, empyema was always a serious, often an incurable, disease. He believed that aspiration, two or three times repeated if need be, was the best treatment in childhood, and ought always to be adopted before other measures were tried. No doubt the next best mode of cure was the expectoration of pus through the lung; but it was hardly safe to postpone treatment until this took place spontaneously, and, unfortunately, there were no mechanical means by which it might be brought on. When aspirations had failed, a free incision into the lowest and most dependent part of the chest, with antiseptic precautions, was called for. In adults he also advocated aspiration; but if the cavity were large he also suggested that filtered and carbolized air should be injected into the pleura; this air helped to replace the fluid, lessened the dragging sensation often felt, and prevented reaccumulation.—*Brit. Medical Journal.*

ASPIRATION OF THE BOWELS IN PERITONITIS. —A successful instance of this measure is reported by Dr. D. M. Williams, in the Dublin *Journal of Medical Science.* The patient was a boy of thirteen. We quote the most interesting part of the history:

His condition was now alarming; the pulse was, for the first time, irregular and compressible—144 to the minute; breathing very shallow; eyes sunken; cheeks hollow; tongue dry; constantly moaning with pain—evidently dying. He placed his hand on the epigastrium, and said the pain was smothering him, no doubt from pressure upward of the diaphragm interfering with the action of heart and lungs. The abdomen was arched from the xiphoid appendix to pubes, and the least attempt at percussion causing great agony. Had not passed water since the 7th. I determined to aspirate him, and passed the finest needle into the transverse colon, and on turning the tap a great quantity of flatus rushed through, followed by three ounces of fluid fæces, which gave him great relief but did not perceptibly diminish the size of the abdomen. Fearing the needle was blocked, I withdrew it, and found such was not the case. I had evidently emptied this portion of the colon. Having washed the needle, I pierced the ascending colon; another rush of flatus took place, followed by eight ounces of fæces. I repeated the operation on the descending colon with the same result. There was now very decided diminution of distention and relief of pain; still he complained bitterly of a spot just below the navel, which was quite tympanitic. Taking care to avoid the bladder, I pierced probably the ileum; more flatus escaped, with about half an ounce of fluid fæces. He was now much relieved; pulse had fallen to 96; breathed deeper. 10 P. M. Much the same as after the tapping; expression of face less haggard; pulse 120, full and soft; temperature 102°; passed water freely, and without pain, an hour after the tapping. To take pulv. Doveri, gr. 10, h. s. From this time his progress toward recovery was steady.

M. BERGER advocates a method of skin-grafting, of exciting the vascularization of the flap before cutting it, by covering the skin either with a mustard plaster or with warm poultices. He has already found this method to be successful.—*British Medical Journal.*

FIDDLE-STRINGS AS A BOUGIE.—Dr. F. E. Daniel, of Jackson, Miss., failing in a case of very tight stricture to get in the smallest ordinary bougie, used in the emergency a small fiddle-string. This passed in readily. Being withdrawn in a few minutes it was found to have swollen to nearly twice its previous size. A larger one was then passed and allowed to remain fifteen minutes; this being then withdrawn, the urethra was sufficiently dilated to get in a No. 4, then a No. 6 bougie, and finally a flexible Nelaton's catheter, threaded on a fiddle-string. A second case was equally satisfactory. Dr. D. claims for the fiddle-strings (cat-gut), cheapness, simplicity, harmlessness, availability, strength and rapid expansion.—*Trans. Miss. Med. Ass'n*, 1881.

STRETCHING THE LINGUAL NERVE FOR THE CURE OF TIC DOULOUREUX.—In the Societié de Chirurgie, M. Le Dentu reported the case of a woman who for many years had been afflicted with severe tic douloureux. Stretching the inferior lingual nerve caused the pain to cease, and it had not returned. The force used in stretching was slight, for severe trophic troubles have followed the operation, and M. Charcot reported a case where the operation was rapidly followed by the death of the patient.—*Journal de Medecine et de Chirurgie.*

BACTERIA IN LEPRA.—Quite lately the presence of bacteria has been demonstrated in the muco-cutaneous lesions of lepra. The leprous tubercles of the skin and mucous membrane are characterized by large cells filled with minute germs. At a recent meeting of the French Academy, M. Cornil observed that he had detected in them certain characteristic peculiarities of form which he would make public in the near future.

TREATMENT OF ANEURISM BY ELASTIC COMPRESSION.—Duplay expresses himself favorably about the "treatment of aneurism by elastic compressions," but warns against the mischief of its too long continuance. The compression should not last more than one or two hours; after the removal of the tube and bandage, digital compression should be made for several hours. If pulsation returns in the aneurismal sac, the procedure should be repeated.—*St. Louis Clinical Record.*

OBSTETRICS.

THE RETENTION OF URINE IN THE FIRST MONTHS OF PREGNANCY.—The retention of urine in the beginning of pregnancy is not very rare but it is often overlooked, and is frequently the cause of errors of diagnosis.

M. Broussin has published an interesting paper on this subject in the *Archives de Médicine.* From the cases which fell under his own observation, and from those which he was able to collect, the author concludes that retention of urine shows itself as a rule about the third or fourth month of pregnancy. Sometimes it appears suddenly, but often gradually; very often, after prolonged work or great fatigue, urination is found to be impossible. In some cases, such as those observed by Dr. Larmande, urination becomes more and more difficult, and there is partial retention which does not become complete. Once set up the affection shows symptoms such as is seen in retention from any cause. If retention is complete from the beginning, it may be several days before we have such a filling of the bladder that the urine forces its way through the urethra and an overflow is established. In one case observed by M. Sirédey this was not the case until there had been a full week's retention.

If the retention is partial, the patients continue to urinate, they even pass an abundant quantity of water, but their abdomen grows larger, the bladder is enlarged and finally cystitis is set up.

When overflow of the bladder once begins, the attention of the patient and sometimes even that of the physician is not directed to the true cause of the trouble but an incontinence of urine is first thought of. The urine dribbles away, the abdomen is enlarged and painful, and sharp pains are felt which radiate from the abdomen to the knees. The general health suffers. The appetite is gone. There is excessive thirst and often obstinate constipation. At times anasarca may come on. In one case observed by M. Broussin, the whole body below the umbilicus was anasarcous. In other cases there is general œdema, even the arms may become swollen and anasarcous.

This œdema, first noticed by Trousseau, is often found where there has been complete retention for some days. When it is confined to the lower limbs it can be readily explained by the pressure exerted on the vena-cava, but when we have general œdema, this explanation does not suffice. A very rare complication is gangrene of the bladder.

These cases of retention of urine are caused as a rule by pressure on the urethra by the enlarged uterus, especially when we find a decided inclination of the axis of the womb. In other cases the retention may have a nervous origin, as is not infrequently observed in cases of hysteria; and finally a hyperæmia of the neck of the uterus and of the pelvic organs might be the cause of it.

The diagnosis of retention is as a rule easy, if the attention of the physician is drawn to that condition.

The treatment consists in the use of the catheter and rest. Very often we find polyuria which may last some time after the relief of the retention. The œdema disappears gradually.—*Jour. de Med. et de Chirurgie.*

Ciliated Cells of the Ovary.—In the Société de Biologie, in the meeting held December 17th, 1881, M. Sinéty announced that he had found ciliated cells on the surface of a normal human ovary. As the ovary of the other side was cystic, and as we often find ciliated cells in ovaries which are pathologically changed, he thought that the presence of these cells might indicate a pathological condition. But sections of the ovary showed no pathological condition whatever, and scrapings from the surface showed large ciliated cells. This fact is of importance, for these ciliæ must assist in transporting the ovule to the fimbriated extremity of the fallopian tube after the rupture of a Graafian follicle. The fact that these cells had previously been overlooked by investigators was explained by the speaker as due to the faulty methods of examination. M. Duval spoke of the importance of the discovery, and said that it confirmed his views previously expressed as to the movement of the ovum in the lower animals. He thought it not improbable that the ciliæ were developed on the cells at the menstrual epoch and afterwards disappeared until the next menstrual period.—*La Tribune Médicale.*

Management of Labor in the Vienna Lying-in Hospital.—In *Le Medicin* for March 12, is given the following as the *modus operandi* in this hospital. As soon as the head appears at the vulva, the woman is made to lie on her left side, her right leg being raised and held by an assistant. The accoucheur, standing on the right of the parturient woman, passes his left hand between the woman's thighs, carrying it forward and applying it against the child's head. He supports the perineum with his right hand; but the resistance thus afforded must not be a passive one. He must on the contrary, during each labor pain press energetically over the sacro-coccygeal region, and pull as much integument as he can over the child's head. Meanwhile, his left hand steadies the head at the vulva and prevents its coming out under the *influence of uterine contractions.* In the interval between the pains, the head goes back, soon to return again. The forced alternate motion which the head undergoes has for its result the gradual distention and a greater elasticity of the vulva. At last the head comes out and extension takes place. One must carefully prevent this expulsion from taking place during a uterine contraction, and let the head come out when the pain is nearly over. The perineum must be supported to the end, for the passage of the shoulders is ordinarily more dangerous than that of the head itself.—*Le Med. Practicien.—Canada Lancet.*

Lawson Tait and Battey's Operation.—Lawson Tait (*Med. Times and Gazette,* Nov. 26, 1881, p. 623), protests against the removal of uterine appendages being styled "oöphorectomies" or "cases of Battey's operation," because it is a well established fact that removal of the Fallopian tubes is quite as necessary as removal of the ovaries. "In fact," he says, "I think it is far more necessary in all cases, for upon the tubes, it seems to me, the periodic function of menstruation exists, and ovulation and menstruation are wholly independent the one of the other. As Dr. Battey limited his definition of the operation he performed to the removal of the ovaries, I would plead for this that I advocate, if we are to indulge in clumsy pedantry, the name of *salpingooöphorectomy* or *prosthekotomy.* If the names of the advocates of the various proceedings are to be employed—a practice I object to—then it should be called "Tait's operation," but not "Battey's." Dr. Battey practically purposed his operation for the "production of the menopause or the arrest of ovulation." I am wholly indifferent on the question of ovulation in most of my cases and care not about the menopause in a large number. Therefore, in the whole of my large experience, I have only three cases of "Battey's operation." One has been a complete success; the second I am not sure about, as I have lost sight of her; and the third I am afraid will turn out a failure though it is too soon yet to pronounce judgment." — *Maryland Medical Journal.*

OPHTHALMOLOGY.

Transplantation of Conjunctival Mucous Membrane.—In the *Revue Médical de las Suisse Romande,* M. Marc Dufour reports some cases in which he had transplanted conjunctiva of a rabbit to the human eye. In two cases the operation was undertaken on account of symblepheron. The adhesions were dissected up, and to the denuded surface, some conjunctiva of the rabbit was applied and fixed in place by means of sutures. In the first case, that of an old woman, the operation failed because the graft died.

In the case of a child of eleven years of age, the operation was a complete success, the graft living.

In the case of a man from whose lid M. Dufour removed an epithelioma, a graft was taken from the buccal mucous membrane of the patient. The operation in this case, too, was a complete success.

The author advises to wait a short time after the incision is made, before the graft is applied, also that care should be taken in the application of the sutures to prevent the edges of the transplanted piece from rolling under. And, finally, that the freshened surface and the graft should be washed in a solution of salicylic acid. *Journal de Médecine et de Chirurgie Practiques.*

ANTISEPSIS IN OCULAR SURGERY.—Professor Horner, of Zurich, says that antisepsis can be used to great advantage in many operations on the eye; or, that by means of precautions on the part of the surgeon in regard to the instrument, bandages, etc., such as are used in Lister's method, very many accidents and bad results such as are now too often seen, could be in a great measure avoided.

Dr. Raymond, of Turin, also speaks of Lister's method as of great value in some ophthalmic operations.—*Journal de Médecine et de Chirurgie Practiques.*

TETANUS FOLLOWING THE ENUCLEATION OF AN EYE.—The left bulbus oculi of a woman aged seventy-one was removed on account of an intra-ocular tumor, which sprouted from the corneal wound following an iridectomy for suspected glaucoma. Copious hæmorrhage at the time of, and following, the operation was checked by a compress moistened with liq. ferri placed over a sponge inserted in the orbit. Fourteen day afterward the first symptoms of trismus and tetanus appeared, which carried off the patient in eight days.—*Archiv für Augenheilkunde.*

THE German War Office returns publish the average number of soldiers in the German hospital as only 11 per thousand, whilst in France the average is 25 per thousand. The rate of mortality, according to the same authority, is nearly twice as high in the French army, being 9 per thousand, as against 5 per thousand in Germany. There has not been a single case of small-pox in the German army during the past year, while in France there have been 1,037 cases, of which 98 proved fatal.—*Med. News and Coll. Herald.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, January 21st, 1882.

Bibliography.

SATTERTHWAITE'S "MANUAL OF HISTOLOGY."[1]

The well-worn apology for the appearance of a volume that its predecessors did not fill the demands of a particular class of the medical public, is set forth in the first paragraphs of the preface of this work. The works of Rutherford and Schæfer are too limited in scope; the treatises of Stricker and Frey too comprehensive. The work of Satterthwaite and his associates will just about supply what is wanted. The perusal of the preface alone engenders a prejudice against the body of the volume.

The greater part of the work has been performed by the editor. From his pen are the chapters on microscopic *technique*, on the blood, epithelial structures, connective tissues and elements of the nervous system. Not one word, however, in the entire book on the subject of the cell or its protoplasm. Unless the student of histology acquires from the very first chapter an accurate knowledge of the nature and properties of the physiological unit, the cell, and of its functions it is clearly impossible for him to obtain a concise knowledge of the minute construction of the different tissues of the body. Another fault of omission may be here noticed in the fact that a careful search fails to discover any mention of the anatomy of the salivary glands. No less than sixteen authors have contributed to this book, and hence the reader fails to detect any uniformity of thought pervading the different chapters. This might likewise be said of Stricker's great work; it should be remembered, however, that in the latter, *authorities* only contributed articles upon subjects that had been particularly studied. Of this small work before us the same excuse for a multiplicity of authors can not be advanced. With the exception of Thos. Dwight, J. Collins Warren, and the editor, the names of the contributors are unknown even to those of the profession who are most interested in histology.

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[1] By Thos. E. Satterthwaite and Fifteen Associates, Wm. Wood & Co, 478 pp. 198 illustrations.

Aside from a few unimportant additions to our knowledge of the histology of the skin, muscular tissue and blood-vessels, the work contains nothing original. Even the illustrations are for the most part reprints from well-known text-books or brochures. For a variety of reasons, it must be apparent, that this volume is entirely unsatisfactory to those advanced in histology in that it is not comprehensive and that it is unavailable to the student owing to a lack of method in the treatment of the various subjects.

In favor of the book it should be stated, that the phraseology is in most of the articles simple and clear, without attempts to confuse the reader unnecessarily. The publishers' part of the work has been very successfully performed. The type is large and clear and the illustrations for the most part good. Had the work of the co-editors merited the typographical skill displayed upon it the volume would have achieved a marked success. As it is, however, we fail to see a future for it.

Miscellany and News.

"THE SKIN AN ORGAN OF TOUCH," will be the subject of an essay to be read by Dr. Ravogli at the next meeting of the Academy of Medicine, Monday, January 23, 1882.

THE DURATION OF LIFE.—At the fifty-fourth session of the German Society of Naturalists and Physicians, held at Salzburg, September 21, 1881, Hofrath Weissmann (Freiburg i. Br.) presented a paper on the "Duration of Life." In explanation of the variability in the length of life which is to be observed in different animals, the essayist quotes the view of the distinguished physiologist, Johann Müller: "Organized bodies are merely transitionale. While the life [vital principle] passes with the semblance of immortality from individual to individual, the individual being perishes." This view, he believes, is strengthened by the fact that neither culture nor blending; neither the size of the organism nor the time required for its growth; nor yet the mode of life, whether active or inactive, has any power to increase or diminish the length of life. This variability of life is usually explained by attributing it to the variability in the size of the bodies, the physical constitution, and it is stated positively that the larger the organism, the longer is its life. Large trees attain a remarkable age; the whale lives more than a century; elephants reach the age of two hundred years, and in a large number of other animals the length of life directly corresponds to the bodily size. But these facts are not sufficient to account for the variable duration of life, for we see that on the contrary the little toad lives longer than the horse, and swine reach no greater age than cats and geese; so that the size of the body alone is not sufficient to determine the length of its life, and it is not at all certain that there is any other connection between them than that the complicated organisms of large animals require a longer time for growth and maturity. One factor in determining the duration of life is in all probability the method of obtaining a livelihood that is employed, whether an active life or one of indolence. In animals that are sought as game, certain physiological processes which must be performed rapidly and often repeated, play a greater part in determining the construction of the organism than they do in the sluggish amphibia. Yet these are not determining factors, for we must not look upon the organism as a pile of matter for combustion, always consuming itself, but as a fire to which new fuel must constantly be added. The duration of life must depend only to a very limited degree upon the complexity of the bodily structure, in which culture is doubtless one of the prime factors; that it does not depend upon it to a very considerable degree is evident. Take, for example, bees, among whom the worker and the female live several years while the male, precisely similar in structure survives but a single week.

The duration of life may depend in the first place upon external conditions; its length corresponds to surrounding circumstances. It is not, however, the interests of the single individual but of the race that influence the duration of life, and it is only as the deeds of the individual affect the race that they have any influence in this direction. But with us the aim of the life of an individual is the good of the race, and the duration of life according to this view, should, on the average, be sufficient for the accomplishment of this end. It is also influenced by the rapidity of propagation, by the number of young begotten, and by the amount of danger with which this is accomplished, and through which a certain number are destroyed. To this it is also added that it is the universal rule that life is short after the procreative period has ceased. When the individual has performed the duty of propagating the species, he may go to his rest. It is also of importance in this regard whether the animal has only to bring the young into the world, they being thereafter self-sustaining or whether the parents must nourish, protect and instruct their offspring. In many insects life ceases soon after they have brought forth, while in mammals and birds it exceeds this period. The time which an animal requires to reach maturity and the time it needs for placing in the world a sufficient number of its progeny; these make up the duration of its life. Now the longer the life of an animal, the greater will be the possibility of its death by accidental causes, and the greater therefore must be the number of young to each individual. Of this we have the best example in the broods of birds. Their remarkably long life (a nightingale will live twenty years; a cuckoo thirty-two, eagles and hawks more than a hundred) is explained by the fact that the brood of birds is very easily destroyed, for their bodies being intended for flight are little adapted for propagation by robust young. Many birds lay annually only two eggs, while those that fly but little, as the hen, lay large numbers. The eggs and the helpless young of birds are exposed to numberless dangers both from living enemies and from the destruction by natural events, as storms, cold and water. If then a pair of birds produce only two eggs in a year, in ten years only twenty and the most of these are destroyed, there remains no other means for the propagation of the species than a long life to the individuals. In regard to the duration of life birds are far superior to mammals, if we take into consideration the size and weight of body, for the eagle, which is in weight about equal to a hare, lives more than twenty times as long; yet the more fruitful hare can, in its short life time, produce a sufficient number of young. Insect life is very short, but they execute the duty of propagating their species very rapidly. The one-day fly lives only four or five hours. It awakes, slips out of the larva, flits about in the air, settles down upon the water, deposits all its eggs at one time, and dies soon after. Insects when in their normal state, *i.e.*, not as larvæ or chrysalides, belong to an existence which, while it is an inferior one, is also the most fruitful. There can therefore be no better plan thought of for the continuation of their species than a very short life and a correspondingly short period of fruitfulness. Male bees die after a relatively much shorter time than male wasps and ants; soon after their usefulness to the state has ended. In comparison to them the females live a much longer time, for they are still of service to their race. A lifetime is also a variable period dependent not only upon physiological but also upon external influences.

The cause of a natural death is the wearing out and decay of the cells constituting the organism. In life there occurs a constant alteration and exchange of these cells and the termination of life is due to a limitation of the power of increase in these cells. A natural death finds easier access by the side of insufficient repair; yet we cannot understand why cell-generation should not be unlimited in extent. If it were so, we could acknowledge a principle sufficient to the desired end. Death then seems to be a judicious arrangement, because an animal inwardly endowed with unlimited life must suffer from so many external afflictions that its immortality would prove a burden to its own existence, even disregarding the fact that in old age the tissues undergo certain changes which injure their functional activity, so that normal cells cannot be forever restored to new vitality. The tissues, as life advances, must lose the power of renewing their vitality. Both death and reproduction seem therefore to be useful and necessary measures; and death is truly a laudable contingency, for an unending existence would be an unprofitable luxury. Outdone individuals, incapable of efficiently performing their duties are not only without value to the race, but they are absolutely detrimental, for they usurp the place of other, useful, individuals and render their existence less agreeable. That death is not an inherent attribute of life, but only a gradually acquired condition, is shown by a study of the simplest forms of animal life. In these, natural death has no existence, and we must speak only figuratively of it in them. There is a large number of organisms that will continue to live just as long as the necessary requirements of life continue to exist; that is, so long as they are not destroyed by violence, they contain within themselves the germs of unending life; *e.g.*, the amebæ. These germinate by division, their tenacity of life remaining always the same. The newly-born animal then undergoes the same process, so that we cannot say of one this is the mother, and of another, this is the daughter. These divisions, too, occur over and over again, yet the original individual remains always in the original condition. How, now, can eternal life in this low organism be reconciled to the standpoint of means to a necessary end? They suffer no waste in the sense that the higher animals do. Now, since the multiple-celled animals are descendents of the single-celled, how is it that this eternal life has been lost? The complexity of structure is doubtless the cause; they have lost the power of reconstructing large portions of the body that have been accidentally lost. In the single-celled animals, death is absolutely impossible, for otherwise they would of necessity lose their power of increase by segmentation. With the development of the higher animals there arises a separation of the cells of propagation and those of the somatic functions; the former preserve their powers of unlimited germination, while the latter lose them. Herein does death first become possible. As the size of bodies depends upon the inherited limit to its cell-proliferation, so we see the number of bodies limited in regard to time and space by the same principle.

The conditions which regulate the duration of plant-life are in general different from those to which animals are subjected, yet both categories of organisms are dependent upon the same external influences. Alike to both animal and plant is the defect which we name death, the limited term of life in all its varied forms; alike also to each is the continued life of the reproduction-cells and the limited life of the somatic cells.

In conclusion, the author considers the question of the cosmical origin of life, which may be summed up thus: that it takes out of life all that is positive, and totally contradicts spontaneous generation. Nevertheless he holds up spontaneous generation as an irrefutable postulate, for while matter is indeed indestructible, organic life cannot be so. Organic life being then essentially destructible, it cannot be eternal. Still, this does not solve the problem of life, for spontaneous generation granted, the question still remains: How is this possible? But, in attempting to solve the problems of life and death, we reach the limits of human knowledge—it is not the possession of truth, but death alone. that can give peace in this regard.—(*Allg. Medis. Central-Zeitung.*)—*Med. Neuigkeiten.* J.M.F.

CONCERNING CONSULTATIONS WITH HOMŒOPATHS.—An extraordinary meeting of the Royal College of Physicians of London was held on Tuesday, December 27th, Sir William Jenner, Bart., K.C.B., President, in the Chair.

The President announced that Dr. George Johnson had consented to deliver the Harveian Oration in the ensuing year.

Dr. Wilks brought forwards the following resolutions:

"That the College considers it desirable to express its opinion that the assumption or acceptance by members of the profession of designations implying the adoption of special modes of treatment, is opposed to those principles of the freedom and dignity of the profession which should govern the relations of its members to each other and to the public."

"The College therefore expects that all its Fellows, Members and Licentiates will uphold these principles by discountenancing those who trade upon such designations.

Dr. Wilks said that the immediate reason for the bringing forward of the resolution was evident, viz.: the recent well-known consultation between a Fellow of this College and a gentleman believed to be a homœopath. With regard to this matter, the opinions of leading members of the profession had been taken, and the conduct of the Fellow in this case had been completely justified. With this opinion Dr. Wilks cordially concurred. But the whole matter was of great importance. Medical men had raised the question, "Is the College of Physicians going to offer any opinion on the matter for the guidance of the weaker brethren?" The medical papers and daily press had discussed, and were still discussing, the subject from time to time. Some Fellows had thought of proposing a distinctly disqualifying resolution, forbidding professional intercourse with homœopaths, etc. But this could not be carried out; there were no pains and penalties to support it; and the position of the College would be ridiculous if it passed a resolution which might be immediately broken by some of its distinguished Fellows. Again, looking at home, some of the members and licentiates of the College were homœopaths. There was also a legal difficulty in the way; it was imperative by Act of Parliament to grant licenses to any one, irrespective of his opinions. As the College could not deal with the greater criminal in its ranks, so it must leave the lesser one alone, as far as definite rules are concerned. These clauses in the Act of Parliament were undoubtedly introduced in favor of homœpaths; and, after a time, the practice sprang up of meeting homœopathic practitioners on equal terms. Nearly all the arguments hitherto brought against meeting homœopaths in consultation, Dr. Wilks thought, were bad; it was generally made a question of *doctrine*. He utterly repudiated any medical *doctrine* in a question of therapeutics; none was possible now, nor probably ever would be. But the theory that the whole question was one of difference of doctrine was maintained by the homœopaths, by the daily, and even by the medical press. He would, of course, repudiate the word "allopathy;" any body might hold any doctrine he liked. The question at issue was far different; it was not one of liberality or illiberality in opinion. The word "liberal" should not be used in relation to a scientific subject. We should endeavor to carry out, in the spirit of Harvey, the "investigation of nature" quite apart from theory or doctrine. There should be no restrictions—all should think and say what they liked. Was it not true that some Fellows of the College had started quite as extraordinary opinions as homœopaths? The real question was one of *morals*. Professions differed from trades. A professional man, whether parson, lawyer, or doctor, was one who had the care or guidance of those who sought his advice in matters of mind, body, or estate. A tradesman simply catered for the public—supplied a demand. Fashions might change; there might be high art or low art; the tradesman simply gave people what they wanted; but the professional man guided them, from superior knowledge; and a good deal of this knowledge must necessarily be kept back, being the product of special study. It was to be noted that, in proportion as the subject of "treatment" was by itself prominently brought before the public, so a nearer advance was made towards quackery. The charlatan had to do with treatment only. He issued his advertisements for pills, and that was all; there was nothing behind the advertisement. Homœopathy was the very quintessence of quackery, bringing, as it did, a system of treatment only before the public. It cared not for, nor wanted, anatomy or physiology. The homœopaths abused everybody else, and brought forward wonderful cases which no one else could cure. This was the general character of homœopathic literature. It was a homœopath who was now most abusing our profession, attacking the study of physiology and traducing vivisection, and putting a musty metaphysical jargon in the place of scientific statements. The greatest authority of the day on charlatanism—Barnum of New York—had said that it did not consist in robbing, or cheating directly, but in blowing one's trumpet loudly, and proclaiming one's superiority to other people. Dr. Wilks had had a patient with heart-disease and dropsy, who was afterwards seen by a homœopath. The patient got better. The prescription was what Dr. Wilks might have written himself; but the homœopath was preferred, "because he had principles, and explained them". Here was the difference, and the point at issue. It must be clearly understood that the question is one, not of doctrine, but of morals. The whole ground, indeed, seemed to be covered, strangely enough, in a letter written to the *Times* by a homœopathic practitioner a few years ago, pleading for freedom of opinion and action, and the abolition of sectarianism in medicine. "No theory or practice", it was said, "ought to exclude a man from the profession, *provided he did not trade on a distinctive name*" Dr. Wilks went on to urge that the College should utter some opinion on the matter, mentioning, among other reasons, that it would help to remove difficulties from the way of hesitating students, some of whom, more worldly-minded than others, were induced to start as homœopaths from motives of trade more than anything else. He summed up his reason for bringing forward the resolutions as follows: 1. The inadvisability of passing a *strong* resolution, as some were inclined to do, because we are not our own masters; 2. The necessity for a definition of the reasons why we decline to meet homœopaths—it being a moral, not a doctrinal, question; 3. The advantage of the College placing its opinion hereon on record.

Dr. Lionel Beale seconded the resolution.

Dr. Alexander (Halifax) made some remarks adverse to the resolution, and ultimately moved the previous question. The motion, however, was not seconded.

Dr. Andrew Clark considered that Dr. Wilks had failed to justify this resolution by his own argument. The moral question was different from that raised by Dr. Wilks, being really this: when two men, a homœopath and an allopath, met in so-called "consultation", the medicines proposed would be different, as well as the doses and the object in giving them. The consultation, therefore, would be false; and consequently the participation in it would be immoral.

Dr. Bucknill thought that the resolution was too wide, as it would include men who were known chiefly for special methods of treating certain diseases; and instanced Dr. Althaus and Professor Lister. He wished that the matter should be treated more definitely, and proposed as an amendment—

"That this College, considering that competent medical men cannot honestly practice the system of medicine called homœopathy, is of opinion that any Fellow, Member, or Licientiate may properly decline to meet homœopaths in consultation."

The amendment was seconded without further remarks.

Sir William Gull said that the College was treading on serious ground, and that the question was one of individual conviction. We should do what was best for our patients, and co-operate frankly, if at all. He would not meet anyone who gave purgatives in peritonitis, or who treated a patient with aneurism by making him walk out in all weathers. He once knew a homœopath who gave this latter piece of advice, saying that if there were bleeding. it would do good by unloading the chest. But the question should be discussed only *intra muros;* no resolution should be published. If the most respected Fellows disagreed, none should be put into a difficulty. It should go forth to the profession, however, that the College could not trifle with a system that was false.

Dr. Wilson Fox said that he was most decidedly of opinion that Dr. Wilk's remarks covered the whole ground, and answered all objections that had been raised. Professional men must certainly claim for themselves the right of accepting or refusing a consultation on the sole ground of the good of the patient. But the Fellows of the College had been publicly told that they were wrong in doing this, and had been abused as a "privileged" class. Dr. Wilks had laid down broad lines of conduct which were definite and clear. It was absolutely right and proper for a man to form any opinion he liked, and to start any line of treatment, but not to adopt a nomenclature applicable to himself as a special inventor of any particular process. With regard to Dr. Bucknill's criticism of the resolution, the gentleman to whom he referred had not assumed or accepted such names. The question raised by Dr. Wilks was the only one with which the College could deal. It could not deal with homœopaths as such; and certainly could not accept Dr. Bucknill's amendment. What could not a man honestly believe? It was well that some opinion should be expressed by the College. The medical public were asking for guidance in the matter. Surely it was no argument to say that, because it was not possible to meet all forms of quackery, no endeavor should be made to meet some. The College was preëminently a guide in professional ethics. It had already many excellent rules; and the addition proposed by Dr. Wilks was one of great value. There was no cause of fear from the public; and the profession was upheld rather than curtailed by the resolution.

Dr. Priestley considered that really the most important part of the resolution was the latter clause, containing the word "trade"; and suggested that some words, to the effect that the College did not think it desirable to fetter the opinions of its members, should be inserted in the resolution.

Sir William Jenner said he believed it was known that his own opinion was very strong against meeting homœopaths. Medicine had no business with anything else, but that the best thing possible should be done for the patient. But the homœopath did hold a fixed doctrine and principle. It was not possible to consult them; for evil would result. He did not put the matter on the moral ground, as Dr. Wilks did. He had once met a homœopathic doctor in consultation, without knowing him to be such; on a second occasion, he asked him whether he was a homœopath. His answer was that, when it was suitable, he used homœopathic treatment; at other times, the ordinary treatment. Sir William Jenner declined to act with him, on the ground that, at any moment during the course of the case, homœopathic treatment might be deemed suitable. He doubted the wisdom of the College in sanctioning Dr. Bucknill's amendment, and hoped he would withdraw it. He did not agree with all Dr. Wilks said, but hoped that his resolution would pass. The profession looked to the Col ege for some expression of opinion, and this resolution would satisfy most.

Dr. Bucknill withdrew his amendent.

Dr. Wilks said a few words in reply to some of the speakers, especially mentioning that his resolution obviously did not apply to specialists, as such, but to those who professed special systems of treatment.

The resolution (with the prefix as follows) was then put, and carried unanimously.

"That, while the College thinks it desirable not to fetter the action of the fellows, members, and licentiates, with reference to any opinions they may adopt, it nevertheless expresses its opinion, that the assumption or acceptance, by members of the profession, of designations implying the adoption of special modes of treatment, is opposed to those principles of the freedom and dignity of the profession which should govern the relations of its members to each other and to the public; the College, therefore, expects that all its fellows, members, and licentiates will uphold these principles by discountenancing those who trade upon such designations."—*British Medical Journal.*

SANITARY CONVENTION at Ann Arbor, Michigan, under the Auspices of the State Board of Health, February 28 and March 1, 1882.

SESSIONS.

There will be sessions the first day at 3 P. M. and 7:30 P. M.; on the second day at 9:30 A. M.; 2:30 P. M. and 7:30 P. M.

During each session of the Convention there will be one or more addresses or papers on some subject of general interest pertaining to public health, each paper to be followed by a discussion of the subject treated.

Officers of the Convention.—The officers chosen by the committee are as follows:

President—Judge T. M. Cooley.
Vice President—W. F. Breakey, M.D.
Vice President—Judge W. D. Harriman.
Vice President—Hon. Israel Hall.
Vice President—Mr. C. H. Worden.
Vice President—Mr. H. J. Brown.
Vice President—Mr. Richard Hudson.
Secretary—V. C. Vaughan, M. D.

Exhibition of Sanitary Apparatus.—Manufacturers of and dealers in all kinds of sanitary apparatus or appliances are invited to send specimens of their articles for exhibition at this Convention in accordance with the following regulations:

(*a*) The committee reserves the right to decline any article not deemed suitable.

(*b*) A full description of each article proposed to be exhibited must be forwarded to the Secretary of the Convention with the application for space.

(*c*) There will be no charge to exhibitors for entrance fee or for floor or wall space.

(*d*) Exhibitors will pay all expenses for transportation, storage, placing and removal of goods, and must themselves be responsible for any breakage or damage to their articles.

(*e*) Every article, model, drawing, or photograph exhibited must bear a descriptive label giving a detailed statement respecting its construction, use, and the price at which it can be furnished, and the name and address of the agent and place of sale.

(*f*) Exhibitors may employ persons to explain their exhibits, and properly to solicit orders.

(*g*) The position in the hall of articles entered by each exhibitor will be determined by the Secretary of the Convention.

(*h*) Exhibits will be received by the Secretary of the Convention until February 27, 1882, and will be placed in the hall before the opening session of the Convention.

Judges will be appointed to examine the various articles on exhibition, and certificates of merit will be awarded to such articles as are deemed worthy.

Records of the proceedings of this Convention and some of the addresses and papers will probably be published in the Annual Report of the State Board of Health.

The papers read are expected to be original contributions, which when read are the property of the Convention, and should be left with the Secretary.

The admission to all sessions of this Convention will be free, and the public are cordially invited. Programmes for the session of the Convention will be issued at an early day.

Addresses and Subjects to be Presented and Discussed.—1. Welcome Address, by the Mayor, Dr. Kapp. 2. Address by the President of the Convention, Judge Cooley.

Among the subjects to be presented and discussed are the following: 1. Ventilation. 2. Causes of Insanity. 3. Injuries to Health from Overflowed Lands and from Mill-dams and other Obstructions in Rivers. 4. Water Supply and Disposal of Waste Matter. 5. School Life and Hygiene.

Committee from the State Board of Health.—Rev. D. C. Jacokes, Pontiac; J. H. Kellogg, M.D,, Battle Creek; Henry B. Baker, M.D., Lansing.

Local Committee.—W. F. Breakey, M.D., J. Kapp, M.D., Philip Bach, T. J. Keech, Israel Hall, Hon. E. D. Kinnie, Judge W. D. Harriman, O. Eberbach, Prof. Olney, Judge Cooley, Prof. Prescott, Dr. George.

Further information may be obtained by addressing either of the following members of the sub-committee: W. F. Breakey, M.D., Ann Arbor, Mich.; Henry B. Baker, M.D., Lansing, Mich.; V. C. Vaughan, M.D., Secretary, Ann Arbor, Mich.

THE TAPE WORM.—A correspondent of the *Scientific American* thus describes the migrations and metamorphoses of this parasite:

Most of my readers know that the domestic pig is subject to a disease known as "measles," in which the muscles are more or less filled with *cysts*, which render the pork unfit for food; but I think few are acquainted with its cause.

Man, it is well known, is occasionally infested by a parasite—the so-called "tape worm" (*Tænia solium*)—which may be described as having a tape-like body of varying length, with a differentiated "head" or *scolex* at one extremity.

This apparently single animal is in reality a colony of mothers and daughters, the scolex being the parent of all.

This "head" is provided with a *rostellum*, or, as it might be called, proboscis, encircled by a crown of hooks, below which are the suckers; each segment added to the scolex is a complete individual containing a complicated and perfect reproductive system.

The last segments—*proglottides*—which are filled with eggs, break off at intervals, and either the eggs are set free within the intestine of their host, when they are passed out with the fæces, or the segments themselves are evacuated.

The tape worm feeds on the juices of the bowel by absorbing the nutriment through its skin, and does not appear to seriously inconvenience its host in any way. In Abyssinia *tænia helminthosis* is constant and general; indeed the animal is there regarded as a sort of hygienic agent and cultivated rather than discouraged, yet the people are healthy; certain it is also that wild animals, almost without exception, harbor at least one species of tape worm as a natural condition.

But what has this to do with "measles?" Now to the point. Let us suppose one of the before-mentioned eggs taken into the stomach of a pig, either by eating the excrement of a person affected or through the water or air; here it hatches, not into a tape worm, but into an animal of oval form, transparent, contractile, in the middle of which are six stylets arranged in pairs; with these it cuts its way through the tissues until the muscles are reached, when, having arrived at its destination, it stops burrowing and surrounds itself with a sheath.

Here the stylets atrophy, a new and quite different crown of hooks is produced, and the parasite becomes a *cysticercus* or vesicular worm, the cyst being about the size of a hazel nut. This constitutes "measles;" the exhaustion or even death attendant on the disease is caused by the scores, hundreds, or even thousands of animals boring through the tissues; once encysted there is no further suffering or danger.

The cysticercus remains encysted for months or years, or until the piece of flesh enveloping it *is introduced into the stomach of man*, in which case it instantly quits its torpid condition, leaves its sheath, makes its way to the intestine, where, attaching itself by its suckers and hooks, it grows—or rather reproduces—so rapidly that in a few weeks a tape worm of several yards in length is formed, which reproduces eggs, and so *ad infinitum*—from pig to man, from man to pig.

Should the eggs be introduced into man himself or animal other than the hog, the cysticercus penetrates the tissues in the same manner, but it is "not at home," and instead of resting in the muscles it makes its way to other organs, such as the brain, heart, or eye, where its presence has caused in man several instances of insanity and death. Should a piece of meat containing a vesicular worm be eaten by a pig or animal other than man a *tænia* is developed, but it also is "not at home," and does not attain its full development.

Both eggs and cysticerci are killed by a temperature of 200° Fah., so there is no danger in eating well-cooked pork, even if it contains cysticerci.

To prevent hogs contracting "measles" it is only necessary to prevent them having access, either through their food or water, to the secretions of man, and they will not suffer.

Throughout the genus *Tænia* we find this dual life; for instance, the cat has a tape worm, the cysticercus of which she gets from the mouse, and the dog one which he obtains from the sheep.

THE TROUBLES OF A PHYSIOLOGIST.—The distinguished physiologist Paul Bert, successor to the chair of Claude Bernard, was recently summoned before the Tribunal of the Seine to respond to an action brought against him by Mme. Greyot. This lady petitioned for damages to the amount of 16,000 francs, asserting that the unendurable howling of the experimenter's dogs had driven the guests from her establishment. On the part of the defendant it was claimed that, upon the receipt of complaint, efforts had been made to remedy the evil. Bert had even gone so far as to render the animals mute by operative procedures. The aphonia of the canines having been demonstrated to the satisfaction of the court, the plaintiff's petition was denied, and Mme. Greyot was condemned to pay costs.—*Medical Record.*

RESECTION OF THE STOMACH.—After eating some fish, a young man in Geneva, Switzerland, was attacked with acute pains in the stomach. As they did not yield to the usual remedies, the attending physician, Dr. Wagner, inspired by the example of Billroth, promptly opened the abdominal walls, slit up the stomach, and removed some fish bones which were attached to its sides? At last accounts the young man was progressing favorably. This incident, gravely given in the *Allgemeine Med. Central Zeitung*, June 4th, if true, is an astounding example of reckless surgery. But perhaps it is intended for what Artemus Ward called "a goak."—*Gaillard's Journal.*

ARTIFICIAL QUININE.—There have been rumors for some time that artificial quinine could be made, and was indeed being largely manufactured. The process was apparently one of child-like simplicity, and consisted only in bringing together dihydrolepidin, dehydroethylpyridin, and the chloranhydride of chloropropinic acid. A substance obtained in this, or some similar way, and called chinolin tartrate or artificial quinine, has been used by Dr. Schapringer in the Jewish Hospital, Philadelphia. It was found to have slight antiperiodic properties, but to be far inferior to quinine.—*Record.*

IN Belgium there are 2,111 medical men and 2,130 midwives, the population of the country being 5,500,000. This makes about one doctor and one midwife to every thousand of the population.

LOCAL LIGHTNING.—The San Francisco *Chronicle* says there is a tract of country in Butte County, Cal., about fifteen miles long by half a mile in width, where lightning strikes trees nearly every time a storm passes over. Outside of this strip there is no such damage. The line can be plainly traced by dead timber. As many as three fires have been caused by lightning in this tract in one single storm.

Lectures.

ABSCESS OF THE LIVER.

PROF. WHITTAKER'S MEDICAL CLINIC AT THE HOSPITAL OF THE GOOD SAMARITAN, JANUARY 9TH, 1882.

[Reported by DR. J. M. FRENCH.]

DR. KELLY, the resident physician who has had immediate charge of this case will read us the history of it:

MRS. G., æt. 32, married for two years; has had one child, which died about five months ago, aged nine months. Family history good. Personal history, so far as patient knows, is also good. Indeed, judging from the history the patient has enjoyed unusually good health. Parturition and puerperium were perfectly normal. The patient has not menstruated for nearly two years. After the death of her child, about five months ago, she began to lose flesh and strength. This has continued progressively until she is now bed-ridden. She has a slight cough and complains of shortness of breath. Even when quietly resting in bed, she must retain a semi-recumbent posture in order to breathe easily and freely. Her appetite is fair, her bowels regular.

Physical Examination. — The patient is very much emaciated. The abdomen at the upper portion is abnormally distended, as also at the lower portion. Palpation shows the enlargement at the upper portion to depend upon a solid body in the epigastrium and right hypochondrium. The enlargement below depends upon an accumulation of serum. There is here decided fluctuation. Above there is found a solid body jutting out from the free border of the ribs on the right side, and downwards to a level nearly with the umbilicus. The epigastrium is filled by a smooth round body which is exquisitely tender to the touch. Percussion gives fixed dullness over the hepatic region, extending from a line above the nipple in the epigastric region downward. The dullness in the lower abdomen varies with the position of the patient. The heart and lungs are normal. Pulse 112; temperature 99·5°. Urine normal except an excess of urates.

I think it must be apparent to you all that we have to deal here with some disease of the liver, which is most pronounced in its left lobe. So far as the history of the case is concerned, we have little or nothing to guide us. The most searching inquiries of the resident physician give us no antecedent disease. Dr. Kelly has taken pains to discover, if possible, some previous malady, because he knows as you know that the liver is seldom the seat of a primary malady. Although it is such a big organ and has such a multitude of functions to perform, disease seldom begins in it. And while this is true of its acute, it is much more remarkably true of its chronic affections. I appeal to the history of the degenerations, the syphilitic, the fatty, the amyloid, the malarial, common conductions attended with enlargement of the liver, and you will remember of all these affections that they show their first expressions, or their first causes, elsewhere. Hence the extreme importance of a history in a disease real or suspected of the liver.

Now the only possible prodrome in the history of this case is childbed, a perfectly physiological condition, but we fix upon it nevertheless as the only clue we have to explain the abnormal state of the liver.

So far as the statements of the patient are concerned they mislead rather than lead us to a comprehension of her condition. For this patient came to the house to-day with the statement that she had "water on the chest." But upon examination there was found nothing wrong with the lungs; nothwrong with the heart. Upon further examination, however, there was found something wrong in the region of the liver. There was this protrusion in the epigastrium; a round smooth protrusion, indicating an enlargement of the left lobe of the liver. There has been in the history of this case some slight œdema of the feet, but that has disappeared.

You might think from this much of the history that we had to deal with a case of amyloid degeneration. On this supposition, the first inquiry you would make would be for phthisis, because one half of all the cases of amyloid degeneration, are due to phthisis. Then you would inquire for a bone disease, for necrosis of bone is one of the most frequent causes of it. Next you would inquire for syphilis; none of which condition have preexisted here.

Given a tumor of smooth outline over the liver, with œdema of legs and you might naturally suppose, I say, that you had amyloid disease but you would not accept such a view unless you could find the cause of it.

Well, I came to the bedside of this patient just before I came to you, rather prejudiced in the belief that I had to deal with a case of amyloid degeneration, probably from one of the causes mentioned, possibly from malarial cause, and possibly from no discoverable cause, as such cases do unquestionably exist.

But, it must be apparent to you upon very superficial examination that there is a decided protrusion of the epigastrium; this is as you see, a globular enlargement of the left lobe of the liver, and when I now put my hand upon the hepatic region, four, perhaps five, inches from the margin of the ribs, I find this hard mass which I of course recognize to be the liver. It reaches down to two and a half inches above the umbilicus. As I trace around this tumor, I can distinguish a sulcus which divides the right lobe from the left.

The left lobe reaches down to a line near midway between the ensiform cartilage and the umbilicus. The left lobe reaches over to the left to the parasternal line. The tumor has distinct edges, but it has a doughy feel. It causes pain to the patient when I make pressure upon it. Now if we go down lower, in the abdominal cavity, you observe, that the umbilicus is protruded; that the hypogastrium is also raised. I find in the iliac regions also a doughy feel which is due to the accumulation of fluid; that is, I get a distinct fluctuation.

We have here now an enlargement of the liver with a previous history of œdema of the feet. There is with this also, a considerable degree of emaciation, best shown about the chest, where the ribs are prominent and the intercostal spaces are well marked.

There is in addition to this a considerable elevation of the temperature, to about 101°; the pulse is also somewhat rapid, running now 105 per minute. What, then, might this enlargement of the liver be? Well, I said I came to the case rather prejudiced in favor amyloid degeneration. For while it is the rule that amyloid degeneration is preceded by a history of suppuration, yet we do have it occurring where there is no such history. As a rule we have a suppuration of three or four month's duration. There is another fact which we know clinically, that amyloid degeneration does not affect any one organ, but several organs. The liver, spleen, kidneys and intestines are the organs of predilection. There is perhaps no affection which enlarges the liver to such a degree as amyloid change. But an amyloid liver, while it gives a doughy feel and decided resistance does not give tenderness on pressure. We ought also to find some evidence of amyloid change in the kidneys, but the urine is normal.

Now we find that this woman has just a few months ago gone through with puerperium. Could there have been any suppuration during that period? There is no evidence of it, so far as we can see.

Since then we have no history of suppuration in this case, and no manifestation of its change elsewhere, we are forced to exclude amyloid degeneration.

It could not be a fatty degeneration for this is a disease which comes on in high-livers or after suppuration, especially in the lungs. It is rare to cut into the liver of one who has died of phthisis without finding evidence of fatty change. But a fatty liver is not tender to the touch. It is in no way attended with manifestations of febrile excitement. Moreover there is no history of phthisis here, for the organs of the chest have been pronounced normal.

No one would for a moment think that this patient has cancer of the liver. Here is a patient who was perfectly well before parturition, was confined, nursed her child and got up perfectly well and remained so for several months before this affection of the liver came on. And, moreover, a carcinoma of the liver does not enlarge it uniformly, but there are nodules giving it an irregular outline. We should have also a discoloration of the surface. Then the patient is too young to be subject to this disease. Cancer of the liver, too, is nearly always a secondary product but there have been no primary manifestations here.

Of course, we exclude echinococcus. There could be no echinococcus here, for we would then feel large, irregular, nodular masses, in which we might detect fluctuation.

Specific disease we exclude because it is not, as a rule, attended with any enlargement of the organ, but, on the contrary, usually with contraction.

Could it be cirrhosis? You know this disease enlarges the liver in the first stages. But cirrhosis comes on, as a rule, from alcoholism, and there has been no such history in this case. Sometimes there is no history of alcoholism. Could this then be one of those rare cases in which cirrhosis comes on after the puerperal bed? It has come on too rapidly for such a view. Then there is no bile in the urine —no excess of urates; the urine is perfectly clear.

Well, now, it seems to me, we have excluded nearly all the diseases of the liver, except *abscess*. We have come to this conclusion by exclusion, and we will come to it, also, by direct examination. We have the enlargement, the elevation of temperature, and, what we lay especial stress upon, the tenderness. But how shall we verify it to be an abscess? The abscess is usually found in the right lobe of the liver; but here the main amount of tumefaction is in the left lobe. It does not enlarge the liver in all its dimensions. It usually works some way to the surface. We know that an abscess of the liver sometimes discharges itself into the pleural cavity, and occasionally into the peritoneal sac, or upon the surface. Now, how can we make the diagnosis absolutely certain without the presence of pus? By aspiration. Well, I took the precaution just before I came in to insert my hypodermic needle, and I drew out this syringefull of the yellowish fluid you see. No other evidence could give us proof like that. In old times it used to be a difficult thing to diagnosticate an abscess of the liver. Now, when in doubt, we introduce the needle of the hypodermic syringe carried with us. No language could portray so distinctly what is the matter with this patient as that spoken by this little instrument. It takes but five seconds to let it speak. By this means we could have recognized an accumulation of fluid of any kind: blood, serum, echinococcus fluid; and, having our diagnosis, know the treatment at once. Chapters upon chapters, written about the diagnosis of abscess of the liver we skip altogether, because the diagnosis is so easy by means of aspiration.

Now, we know what is the matter in this case absolutely, and we know just what to do for it. And I would do it here before you, but the patient objects. This is a republican form of government; and in a republican government every one has the right to exercise his own judgment.

That objection may prove fatal to the patient. The abscess may break into the peritoneal cavity and set up a fatal inflammation before morning. Now pus, whereever it is located must be evacuated—*ubi pus, ibi incisio* — wherever there is pus there must be an incision. The pus must, of course, be discharged. If let alone it will burst either into the pleural cavity, the peritoneal cavity, the bronchia, the pericardium, or upon the surface. If it burst in the lungs or upon the surface, the patient may come through all right; but if the adhesive inflammation between the liver and the abdominal walls be not sufficient, and there exists a mere crevice between the liver and the walls, the pus will take that course, and kill the patient with peritonitis. In old times they cut down upon these abscesses—that is, they burned down through the abdominal wall so as to cause an adhesive inflammation, then cut through. Now, however, we aspirate it, and draw off the fluid almost without causing pain. Well, the cavity may fill up again. Suppose it does; we will then wash it out frequently, and, if necessary, inject some irritating material to prevent the reformation of the pus. I use the compound solution of iodine. There is not much color to this fluid, and it looks as if the cavity was filled with clear and laudable pus. This makes it all the more favorable for the patient, though the sac will fill again. The abscess is no doubt surrounded by a thick wall of pyogenic membrane without aufractuosities.

Now, suppose we had not found the depot of pus; still there would be no harm done. The little operation causes no more pain than a hypodermic injection. I introduced this needle before I came in without the patient feeling it at all. But because you did not find the pus, you could not be sure there was no abscess. I once aspirated a man in this amphitheater five times and failed to get any pus. The man died, and upon post-mortem examination, I found that the needle of the aspirator had once gone into the pyogenic membrane, within a line of the pus cavity. As a rule, you will hit it; but you will, as a rule, if you aspirate five times, and get no pus, be correct in your conclusion that there is no abscess. You also see how little time there is to waste in a case of this kind, and how important it is to make a diagnosis; and yet how often this is not done. I have seen a patient with a pleurisy, who was treated months for other diseases, where you could recognize an accumulation of fluid in the chest cavity by simply putting your hand on the chest; and noticing the absence of all fremitus, I put in the hypodermic neeedle, drew it out full of fluid and made a diagnosis in ten seconds; so can any of you.

I have, I suppose, aspirated five abscesses of the liver in this amphitheater. There is very little danger in aspiration, and yet I once met with an accident right here: A thrombus suddenly formed in the heart, and the patient died on the table. That was not a case of abscess of the liver, however, but of the lungs. Our pathologist, Dr. Walker, tells me of two fatal cases he knows of where the pus trickled out from the wound of aspiration, and produced a fatal peritonitis. Such an accident could only happen from the use of too large a tube. You can pump out thick matter through a very fine tube.

CATARRHAL PNEUMONIA.

Delivered in the Childrens' Clinic, Medical College of Ohio,

By F. Forchheimer, M.D.,

Professor of Physiology, Clinical Lecturer on Diseases of Children, Etc.

[Reported by Jas. M. French, M.D.]

Gentlemen:—I was called yesterday evening to see a child five years of age. I had called to see this child first in the morning, and found it suffering as follows: It had had a cough for several days. The cough had become loose, but yet the parents were not satisfied, because it did not disappear. The child had very little fever—a temperature of 100½°. Its breathing was normal, and there was nothing wrong to be noticed about the child, except that upon examination there was revealed an ordinary acute bronchial catarrh. As I stated, I was called again about eleven in the evening, and the statement made by the messenger was that the child had grown worse. I went, and found the following conditions:

The first thing that struck me was that the respiration was very hurried, and, upon counting, found it was sixty per minute. The next thing was that the nares were moving violently, the nostrils dilating and contracting at every inspiration and expiration. The child's face was so suffused that it was slightly cyanotic, that the conjunctivæ were slightly injected. Upon having the child undressed, I found as follows:

The same rapidity of breathing; a sinking in above the sternum; furthermore, a furrow shown about the insertion of the diaphragm, and with every inspiration there would be a sinking in below, called the peripneumonic furrow by Trousseau. Upon percussion I found nothing abnormal, except a small spot of tympanitic dullness on the left side, behind. Auscultation revealed, instead of the moist rales we had in the morning, dry rales. I found on the left side distant bronchial breathing, increased vocal fremitus, and what are known as consonant ralés, that is the ralés sounded much louder from this tympanitic dull spots than anywhere else. What, then, was the matter with this child? If you look at the physical conditions present, you can come to only one conclusion. We had, in the first place, tympanitic dullness—the dullness produced by exudation; the tympanites produced by the lowering of the tension in the walls of the air-vesicles.

Some of you will remember the experiments I used to make before you, in connection with physical diagnosis, to illustrate how tympanites is produced in connection with dullness. You know that if you take a bladder and fill it up with air so that the walls are tense, you get upon percussion, the resonant sound. If, now, you let out some of this air, so that the tension of the walls is diminished, you get the tympanitic sound, and this is the physical explanation of tympanitic resonance. Now, what could have produced tympanitic dullness in the case before us? There has been an exudation from the bronchial catarrh, and as a result of this exudation there has been a blocking up of the bronchial tubes, coming to this spot; there is a lowering of the tension in the tubes, and we have the tympanitic resonance or dullness, if the exudation has taken place about the alveoli.

The auscultatory symptoms are to be explained as follows, and these are rather difficult to understand. If you hold over a glass jar a tuning-fork that has been struck, the jar being of a certain length, or if filled to a certain point with water, you can hear the tuning-fork across the room, whereas if you strike it in the air, you will not be able to hear it to any great distance. In the former case, the vibrations from the tuning-fork meet with air which corresponds in length of wave to its own length of wave, and is thus increased in resonance. Now, in the lung what happens? In the ordinary condition of things, resonance, in the acoustic sense of the word, is not found, and the result is that we hear only breathing, not reinforced by resonance.

We have now, as a result of exudation, the walls of these bronchial tubes and the smaller air passages thickened. The result is that the air within becomes the air of a resonating chamber, and consequently we hear the rales when we put our ear over the chest at the place affected, reinforced by these resonating chambers; we hear the breathing reinforced by resonance. We have then bronchial breathing, and what are known by Skoda as consonant ralés, which become consonant on account of the increase in thickness and firmness of the walls and smaller bronchial tubes, so that as a result of physical signs, I was forced to make the diagnosis of an exudation within the lung; small, and to be found at the place where percussion elicited the tympanitic dullness, and where I found the consonant rales. We had then before us a pneumonia.

The next question was: What form of pneumonia were we dealing with? As you are aware, in children we have two forms of acute pneumonia: first, the ordinary croupous, as we find it in adults; and secondly, catarrhal pneumonia. You well know that croupous pneumonia is the form which occurs in adults, and catarrhal pneumonia that which occurs principally in children. Upon our determination of this question then depends our prognosis, and to a certain extent our treatment. The differential diagnosis in this case was easy, although in some cases it is next to impossible, for the reason that croupous and catarrhal pneumonia are sometimes so closely blended together that it is extremely difficult to make a differential diagnosis, until the disease has run its course. In the first place, we may distinguish one from the other by the onset of the disease. In a catarrhal pneumonia the onset is gradual; in a croupous pneumonia it is sudden. In a catarrhal pneumonia we have the little patient complaining three, four, five, perhaps more days of a cough, and a slight catarrh. In the croupous he is taken suddenly, with a chill or a convulsion, and we find a pneumonia developed. The onset, then, in the case before us, spoke for catarrhal pneumonia. In the next place we must examine the breathing. Here we found an explanation of all the symptoms. The breathing was sixty per minute, pulse 140. We found a furrow or sinking of the chest; we had dyspnœa, and that to a great degree. The temperature was only 102°. A child does not suffer so much from difficulty of breathing in croupous pneumonia as from pain, whilst here we have the reverse, and it suffers most from difficulty of breathing. The respiration is not so fast in croupous as in catarrhal pneumonia. The temperature in the croupous is usually 103° to 105°. Next we must take into consideration the physical examination of the chest. In catarrhal pneumonia, the onset being gradual, it developing from some previous disease, we must find traces of this disease in examining the chest. We find in other words, signs of bronchial catarrh. In croupous pneumonia we do not find this. We find simply the part affected giving signs of change, whilst the rest of the chest is perfectly healthy. Percussion: Catarrhal pneumonia is, as you know, a lobular process, affecting one or more lobules of the lung; croupous pneumonia, on the other hand, being a lobar process, affecting a whole lobe of the lung, and depending upon this we notice physical differences in percussion and auscultation. Upon percussing over a catarrhal spot frequently, you are not able to detect anything wrong. In the case I have narrated to you, I was able to detect a small spot of dullness and tympanitic sound around it. In some cases you are able to get only a tympanitic sound, and sometimes not even this. What you can rely upon is this. Percussion in case of catarrhal pneumonia gives you dullness, tympanitic dullness, tympanitic resonance, or nothing at all. In croupous pneumonia we have always dullness, because a whole lobe is affected; it is not a small part of it, but a whole division of the lung. Then you would have dullness, and around it, on the border, especially when the process is increasing, tympanitic resonance. Upon auscultation, you get those signs I have described to you; you get consonant ralés, bronchial breathing, increased vocal fremitus; or you may get nothing at all, and yet the case be one of catarrhal pneumonia, as the spot affected may be so small as to entirely escape detection; and in such cases you would have to make your diagnosis entirely from the other symptoms. In a croupous pneumonia you would have all the physical signs as they are put down for you in the text books for adults—crepitant rales, bronchial breathing, increased vocal fremitus, finally rale redux.

From all this we come to the conclusion that we had a case of catarrhal pneumonia. Now that the diagnosis is made, what is the prognosis? In catarrhal pneumonia of a child, this is always doubtful. Some authors state that the mortality is as high as 66 per cent. In croupous pneumonia occurring in childhood, the prognosis is good. Indeed, by some writers the occurrence of croupous pneumonia in childhood is denied; we have, however, positive proof that it does occur; so that upon your diagnosis will depend your prognosis. You will make your prognosis exceedingly doubtful in a case of catarrhal pneumonia, whilst in a case of the croupous form you will make it good.

The treatment is that of bronchial catarrh. In the dry stage we give ipecac and chloride of ammonia; as soon as the moist stage sets in, we give senega and chloride of ammonia. In addition to that we lay a great deal of stress upon inhalation and keeping the child in a moist atmosphere. As soon as moist rales begin to appear we allow the child to inhale turpentine; 15 drops every three or four hours. In addition to to that I use in my practice something that is recommended even by older authors, and which has given me great satisfaction; it it is a large jacket-poultice. Indeed it sometimes acts like magic. In this case I immediately had the child put in a large poultice. I called this morning at half past seven, to see the child, and found it looking like a different being. The respiration has become not so frequent and it does not complain or toss around so much. The sweating produced by the poultice assisted the lungs, leaving them less to do than they had before. Whether or not the poultice has any deep effect, I am not willing to say. I do not care. Theoretically it is of interest to me, but it is of no practical importance. In experience I have had the proof that this does a world of good, whether it is by an affection of the nervous fillaments in the skin or pleura, or lungs, or whether it acts simply as heat and moisture would act, or by affecting the general nervous system—it is all one to me as long as it has this beneficial effect.

The poultice should be made thus: Take a large piece of muslin—measure it first so the whole chest will be encircled by it—then mix the flax-seed meal or any other kind you find any special virtue in. Spread the poultice on the muslin, cover it with a piece of mosquito netting, turn the edges of the muslin over the netting; then lay the child upon it and bring the poultice up over, close under its arms. You should allow it to remain on two or three hours, it will usually remain warm that long especially if you take the precaution to cover it over with oiled silk. Some authors especially West have added mustard to the meal, but I have never done so, because it produces an effect which is entirely unnecessary; namely, an inflammatory effect upon the skin. In addition to this you give wine, or alcoholics; beef-tea, if you choose; better a cup full of milk: give ice-cream if the child is old enough. Of course keep the patient in bed. With these methods you will be astonished to see what good results you will get from the treatment of catarrhal pneunonia.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of January 9th, 1882.

THAD. A. REAMY, M.D., *Pres't in Chair.* W. H. WENNING, M.D., *Secretary.*

DR. J. C. MCMECHAN read the following essay on

Veratrum Viride in the Treatment of Typhoid Fever.

It would be supposed from the sedative action of veratrum viride upon the pulse that the remedy would be dangerous, but such does not seem to be the case. Bartholow (quoting from Norwood) says: "Notwithstanding the very formidable symptoms produced by large doses of veratrum viride fatal results have been extremely rare. An ounce of the tincture has been swallowed without causing death." "Cases of extreme prostration have occurred from abnormally large doses of American hellebore and sometimes even from moderate doses in instances of extreme constitutional susceptibility, yet *no case of death* from it in an adult has come to our notice," says the United States Dispensatory (p. 437).

In referring to veratrum viride Stillé and Maisch, in the National Dispensatory (p. 1484), use the following words: "With veratrum viride the pulse may be reduced to thirty-five or forty per minute and in some exceptional cases to twenty-two. It is remarkable that notwithstanding the sedation of the heart and the general appearance of collapse produced by it no case of fatal poisoning of an adult by green hellebore should have been reported." Biddle, in his Therapeutics, also refers to the use of veratrum viride, and states that it is not a dangerous remedy. He says "within the past few years veratrum viride has been used largely in the Southern States in inflammatory and febrile affections, particularly pneumonia and typhoid fever with a view to its sedative action. No fatal effects are recorded from its use, stimulants invariably counteracting any excessive sedation." In Ringer's Handbook of Therapeutics (p. 365) is found the following very interesting description of the effects of veratrum viride: "The heart is greatly affected by this remedy, for the pulse grows slow and weak and may sink from 70 or 80 to 40 or 30 beats in the minute. Pushed to the full extent this drug prostrates greatly the muscular strength to the extent perhaps of rendering walking impossible and the muscles may start and jerk spasmodically. The surface is bedewed with clammy sweat, the features are pinched and there may be complete blindness and deafness, but delirium is rare. Dangerous as these symptoms appear, yet if the drug is discontinued they speedily pass away. Veratrum viride is compared on the one hand to digitalis, on the other to aconite. Like digitalis it is said to strengthen the contractions of the heart, and to weaken them only when the dose is excessive. Typhoid fever, it is said, may be beneficially treated by veratrum."

As digitalis is used to quiet the action of the heart, and as it has something of a similar effect to veratrum, it might be well to say something about it; for if digitalis is recommended in the treatment of typhoid fever veratrum viride may be used with propriety in the same disease.

Ringer says: "In typhoid fever, when the fever is high and the pulse quick as happens in the second week of the attack, Wunderlich recommends digitalis, asserting that in two or three days it will reduce the temperature of the body two to three degrees and will slacken the pulse, it may be, by thirty or forty beats in the minute." R. B. Mowry (*American Journal Medical Sciences*, April, 1865), highly recommends tincture digitalis in half-drachm doses every hour for delirium of typhoid fever. Bartholow says in regard to the treatment of typhoid fever, "As however the main point in the management of typhoid fever is to depress the temperature, the treatment directed to that end is the most successful." His antipyretics are hydrotherapy, quinia and digitalis. Flint (Practice of Medicine, p. 898), in speaking of the use of veratrum viride in typhoid fever, says: "As accessory to the use of cold water, there are certain remedies which are useful by diminishing the temperature of the body, namely, quinia, digitalis and veratrum viride. The two latter diminish at the same time the frequency of the heart's action, and of the two the veratrum viride has especially this effect. Veratrum viride, if given for its antipyretic effect, should be given very circumspectly in order to avoid the risk of causing nausea and general prostration."

This article has been written more with the object of obtaining the opinions of others in regard to the effects of veratrum viride in typhoid fever than with the expectation of saying anything particularly new on the subject. The hospital is the proper place for testing the merits of a remedy, and I have had a fine opportunity in the past few months of administering veratrum viride to patients with typhoid fever in the wards of St. Mary's Hospital. The remedy was administered in a number of cases but was not given to such an extent as to cause nausea or prostration. It was also not attempted to reduce the pulse below 75 or 80 per minute, as it was not deemed judicious to lower the pulse below the normal standard. In cases of fever where the pulse beats very rapidly there could certainly be no objection to bringing the pulse down to what it is in health, but to lower it below that point might be dangerous. Dr. Woodward, in a work entitled "Camp Diseases of the United States Army," expresses the following views in regard to the administration of veratrum viride in pneumonia: "Tincture veratrum viride may be employed in two to four drop doses every two hours and the dose gradually increased drop by drop until the pulse is brought down to about 80 beats a minute, after which it may be diminished or the remedy suspended from time to time, so as not to carry the pulsations below that point." These views apply as well to typhoid fever as to pneumonia. Whilst gathering the materials for this paper I wrote to Dr. Wesley C. Norwood, of Cokesburg, South Carolina, requesting him to send me any literature he might have on the subject. The Doctor kindly sent me his little work entitled "The Therapeutical Powers and Properties of Veratrum Viride," and also wrote me a very pleasing letter. Over thirty years ago Dr. Norwood brought veratrum viride to the notice of the medical profession and ever since then has devoted his whole energy to bringing the remedy into general use. He is now an old man of eighty years and the words he penned to me were written in a trembling and scarcely legible hand. In regard to the use of veratrum viride in typhoid fever Dr. Norwood, in his work just referred to, makes the following statement: "We rely on it as the remedy in typhoid fever and administer it with every assurance of success. We put the patient on a free use of it at once and press it until every symptom is controlled or arrested. Our plan is to reduce the pulse between 55 and 75 beats and keep it at the desired point night and day. In severe cases it should be reduced at least to the normal standard, if not below it. By this kind of reduction the febrile and inflammatory symptoms are arrested or vanish, and the patient is kept quiet and tranquil and comfortable. A great many fail of success by not reducing the number of pulsations sufficiently or by suspending the use of the remedy before the disease is fully routed out. It is out of the question, more, it is utterly impossible for febrile and inflammatory action to exist and continue their ravages to any extent, and for any great length of time, when the pulse is kept at 60 or 65 beats or even less. We have kept it for days at from 42 to 45 and 50 with success."

The Doctor is perhaps too enthusiastic in regard to the use of veratrum viride and is inclined to use it to such an extent as to reduce the pulse too low. While agreeing with him that we have in veratrum viride a powerful antipyretic and sedative, yet it is not considered safe to push the remedy too far. It is not claimed that this medicine will cure every case of typhoid fever nor should it be used to the exclusion of other remedies. It is a safe and certain antipyretic and sedative and if used with care may do much good. The history of the following cases will demonstrate the effects of the remedy in reducing the temperature and pulse; and I can in no better way prove the value of veratrum viride than by relating these cases:

CASE I. John D., Irishman, aged 20 years, single, laborer, was admitted to St. Mary's Hospital, April 12th, 1881. When admitted he had been in America but five weeks. I saw him for the first time on July 1st, 1881, he was then suffering from typhoid fever. The history of his case previous to July 1st I am unable to furnish and therefore cannot say how long he had been affected with typhoid fever before that date. His temperature July 1st at 11 a.m. was 103½°, pulse 120, abdomen quite tympanitic, tongue dry and sordes upon the teeth. He was having from five to seven copious discharges from the bowels in twenty-four hours. Patient was ordered three drops of tincture veratrum viride every four hours and put upon a diet of milk and beef tea. At 4 p.m. a bath was given him, temperature of the bath 98° which was gradually reduced to 70°, the patient remaining in the bath fifteen minutes. On July 2d temperature of patient at 11 a.m. was 101° and pulse 104. The veratrum viride was continued in the same doses and on July 3d the man's temperature was reduced to 100½° and the pulse to 90. The bathing was now discontinued and the veratrum was given in two drop doses every four hours. This treatment was continued until July 9th, when the patient was pronounced convalescent. On July 16th he was able to leave the hospital.

CASE II. Theodore R., German, aged 24 years, single, admitted August 9th, 1881, in the afternoon, had been sick two days before admission. Temperature at 11 a.m. August 10th 104½°, pulse 130, tongue dry, sordes upon the teeth, abdomen tympanitic, marked tenderness in right iliac region, ten large evacuations from bowels from time of reception until time of examination. He was ordered a bath at 9 a.m. and 6 p.m. every day. Internally an eighth of a grain of morphine with ten grains of subnitrate of bismuth were given every four hours. Three drops of tincture veratrum viride were also administered every three hours. On the 11th at 11 a.m. temperature was reduced to 102½° and pulse to 110. The same treatment was continued and on the 12th the temperature, taken at the same hour as on the previous day, was found to be 101°, pulse 96 As the evacuations from the bowels were reduced to five in twenty-four hours, the morphine and bismuth were withheld. Three drops of veratrum viride were now only given every four hours and the bathing was discontinued. By administering the veratrum in this quantity the temperature was kept at from 101° to 102½°, and the pulse at from 90 to 98. After two weeks of treatment the dose of veratrum was further reduced by administering two drops every four hours, instead of three drops, which amount was continued until convalescence took place. The fever ended on the twenty-first day, dating from the time the patient was first confined to bed. During the whole course of treatment milk punch was given twice a day and also sufficient nourishment in the form of milk, beef tea, and chicken soup. On September 12th (thirty-four days from the date of admission), the patient left the hospital entirely well.

CASE III. Henry O., German, aged 25 years, single, laborer. Was admitted on the evening of August 10th, 1881. On visiting him at 11 a.m. on the 11th, his temperature was found to be 105½, pulse 148. He was only half conscious and when roused up could scarcely answer a question. Tongue was dry and almost black, evacuations from bowels were quite frequent and were passed involuntarily. The condition of the patient seemed to be hopeless, but he was put upon three-drop doses of tincture veratrum viride every three hours and an ounce of whisky every hour. He was ordered a bath every six hours. Before eleven o'clock on the 12th the patient died. The nurse neglected to take his temperature and pulse early in the morning of the day of his death and therefore it cannot be stated whether the veratrum made any impression or not. The case was considered from the first to be beyond the reach of remedies.

CASE IV. John T., aged 23 years, German, single, hack driver, admitted August 10th, 1881. Patient had been sick three days before being admitted. Temperature on the 11th at 11 a.m. was found to be 104°, pulse 120, tongue dry and sordes well marked upon the teeth. Abdomen quite tympanitic and marked tenderness in the right iliac region. As the patient's pulse was rapid and strong and the temperature so high, he was at once put upon three-drop doses of veratrum viride every three hours. No remedy but the veratrum was ordered for the patient, nor were baths deemed necessary in this case. On the 12th the morning temperature was but 102°, and the pulse had gone down from 120 to 100. The remedy was now ordered to be given in two drop doses every three hours, as it was not thought best to reduce the pulse too rapidly. The admintration of this remedy for two days in this case proved conclusively that in typhoid fever the pulse may be gradually reduced by veratrum viride, and also that the temperature may be considerably reduced by the same. The morning temperature on the 13th was 101°, pulse 90. The veratrum was continued for the next ten days in two drop doses every four hours and nothing else was given during this time except the necessary nourishment. The temperature was kept at about 101° in the morning and 102° to 102½° in the evening by means of the veratrum. In the same way the pulse was kept at 80 to 90. It was not deemed advisable to try to bring the pulse down below the normal standard or to attempt to reduce the temperature below 101°. To have reduced the pulse below

75 in such a formidable disease, and to have kept it below that for any length of time, might have proved a dangerous experiment; but by giving sufficient veratrum to reduce the pulse to 80 or 90 only caused the temperature to remain at about 101°, and made the patient more comfortable and rendered his condition less dangerous. After the patient had been thirteen days under treatment the dose of veratrum was reduced to one drop every three hours, and three grains of cinchonidia were administered every four hours. This treatment was continued until the twenty-first day of the disease, when the temperature fell below normal and remained at 97½° to 98½° for four days. All the symptoms were so favorable that the patient was considered convalescent. On the evening of the fourth day of convalescence the patient was taken suddenly worse, the fever returned, the temperature rising to 103½°. and pulse to 120. The abdominal symptoms had all disappeared, tympanitis had subsided, pain in the iliac regions was no longer noticed, but with the return of the fever all of the abdominal symptoms again became prominent. The fever had ceased for a few days and a relapse took place. As the patient was considerably reduced in strength he was ordered an ounce of whisky every three hours with one drop of veratrum and also three grains of cinchonidia every three hours. After being kept on this treatment for two days the temperature was reduced to 101° and the temperature to 90. This treatment was pursued for the next fourteen days and the temperature was kept at about the same standard during this period. On the night of September 20th the patient died very suddenly. During the day the temperature had been taken and was found to be 101½° and pulse 94. His general condition seemed favorable, he took sufficient nourishment and there had been no hemorrhage from the bowels. His death occurred on the forty-first day after his admission to the hospital and was quite unexpected as all of his symptoms were so favorable.

Case V. Louis W., admitted August 22d, 1881, aged 41, German, single, cook. Had been sick three days before admission; had all the usual symptoms of typhoid fever and his temperature on the 23rd was 103½°, pulse 118. He was put upon three drop doses of tincture of veratrum every four hours, and after two days of treatment the morning temperature descended to 100½°, pulse to 88. After this, two drop doses of the remedy were administered every four hours, and by the use of this medicine throughout the disease the temperature was kept at from 101½° to 102° and the pulse at 80 to 90. With the exception of some morphine and bismuth given on the 4th, 5th and 6th of September, to check excessive diarrhœa, no other remedy but the veratrum was prescribed. On September 12th the fever ceased, and on the 19th of the same month the patient had so far recovered as to be able to leave the hospital.

Case VI. Frederick F., admitted August 23rd, aged 20 years, German, single, baker; had been sick in bed two weeks before admission. When admitted he had all the symptoms of typhoid fever; was suffering from excessive diarrhœa, and his morning temperature was 104½°, pulse 130. One eight grain dose of morphine, with ten-grain dose of bismuth were administered every three hours, and, in addition, three-drop doses of water every three hours. The patient was placed in a bath twice a day for two days. After being on this treatment two days, the diarrhœa ceased, and the temperature was reduced from 104½° to 101°, and pulse from 130 to 88. The bath, morphine, and bismuth were then discontinued, and the veratrum given every four hours.

The patient was kept on this treatment during the rest of his sickness, and the temperature remained at about 101° until the fever ceased. On September 10th the patient was discharged.

Case VII. John A., aged 19, German, mechanic, admitted September 2nd, 1881. Temperature on admission was 104°, pulse 130. He had been confined to bed two weeks before coming to the hospital. The typhoid symptoms were well marked, but as the patient was quite strong, and there were no symptoms present that needed special treatment, except the fever, it was deemed a good case for testing the antiseptic qualities of veratrum. He was at once put upon three-drop doses of the tincture every three hours. In twenty-four hours the temperature was reduced two degrees, and the pulse went down to 100 beats. In forty-eight hours the temperature was but 101° and pulse 88. This case clearly proves the antipyretic qualities of veratrum viride. No other remedy but the veratrum was given during the remainder of the treatment, and the case progressed favorably until the fever terminated. On September 17th, the patient was able to leave the hospital.

Case VIII. During the first week of October, 1881, I was invited by Dr. Twitchell of Darrtown, Ohio, to visit one of his patients. The patient was Miss—who had been sick two weeks with typhoid fever. When we visited her she was delirious, and had been for a week. In her delirium she had fallen in love with the Doctor, and at each visit she called him the most charming, the most endearing, and the most euphonic names. She asked him particularly in regard to the color of his eyes, and when he left her presence, told him not to be gone long. This, of course, was more embarrassing to the Doctor than if the patient had sworn at him, and he was anxious to find a remedy to quiet her fever and delirium. It was impossible to get her to take quinine, or even chloral or bromide of potassium. He concluded to try veratrum viride in the case. This was prescribed in three-drop doses every three hours. The evening temperature on the first day the remedy was given was 105°, pulse 140. On the second day, morning temperature was 104°, evening temperature 103°. Third day, morning temperature 102½°. Fourth day, morning temperature 102°. Fifth day, morning temperature 100°. Sixth day of administration of remedy, and twenty-first day of disease, temperature in the morning was normal, and in the evening 99°. After this there was no return of the fever, and the patient made a good recovery. The veratrum failed to control the delirium, which continued until the fever ceased.

DISCUSSION.

Dr. Whittaker remarked that every mode of treatment of typhoid fever ought to attract special attention, and especially every one that promised to cut the disease short. He could not, however, place himself on the same side with the essayist in regard to the use of veratrum virde in this disease. In his prefatory remarks the essayist stated that veratrum is comparatively a harmless agent, at least not very dangerous, as no fatal cases from its use in typhoid fever had been reported. These statements are not altogether reliable, (1) because fatal cases are usually not made public; and (2) if they do occur, death is apt to be attributed to other causes; veratrum kills by paralyzing the heart, and in typhoid fever death occurs mostly from the same cause; consequently it may be really the drug that caused death instead of the poison of the disease. Degenerative changes take place in the substance of the heart in typhoid fever, and the patient may succumb even in the lighter forms from paralysis of this organ.

The danger of veratrum viride was recognized a number of years ago in the Cincinnati Hospital, when cases of typhoid fever were for a time treated with this agent, but it was soon discontinued on account of the great fatality resulting from or occurring under this treatment.

In analyzing the essayist's cases it will be seen that all of those that recovered ran a natural course; the fever subsided on the 21st day, which occurs in normal cases, even when treated simply on the expectant plan. Moreover veratrum was in most cases not given alone but in conjunction with baths, morphia, bismuth, etc.; consequently we cannot separate the effects of this remedy from the others. The case in which it was given alone was mild. Taking the rate of mortality in all the cases, it was really great—forty per cent. This is very high when it is considered that on the expectant plan the mortality is but twenty per cent, and on the present antipyretic plan but eight per cent.

When we examine the *modus operandi* of veratrum viride we find that its use in typhoid fever is entirely uncalled for. It is not an anti-mycotic, and consequently cannot be of service in killing the germ of the disease, which expends itself for the most part in the nervous system. Veratrum can only act on the heart, and the danger from this source is not so great as from the elevated temperature. The heart's action is compensatory, and if it be intended to ward off the poison from the brain the heart ought rather to be stimulated than depressed. The effect of the temperature itself is to cause parenchymatous changes in the heart, and if these are observed such cardiac stimulants as digitalis, alcohol, and carbonate of ammonia ought to take its place. Veratrum is therefore not alone of no benefit, but is positively contraindicated. That it likewise cannot prevent a relapse is shown by the history of one of the cases cited by the essayist. Nor can it reach the cause of the disease, which is the only direction from which benefit from any remedy can in the future be expected. The essayist's conclusions were drawn altogether from the *post hoc ergo propter hoc* argument.

The reduction of temperature at the end of the first week is often observed naturally. It is only by the study of the natural history of the disease that we can intelligently interpret the action of remedies. The speaker thought that veratrum was not efficient either in abridging the duration or mitigating the severity of typhoid fever. On the contrary it added its own depressing effects to that of the poison of the disease.

Dr. Cleveland remarked that he had no experience with the drug, because he was deterred from administering it on account of the bad repute it had at the Cincinnati Hospital during his term of service. This prejudice against it was shared by the other internes.

Dr. Ellsbury said she had no experience with it in typhoid fever. She had found that it acted well in puerperal fever, but then required close watching by the physician, and ought not to be left to the nurse alone. •

Dr. Schmuck said that in the discussion mention was made of the tincture of veratrum viride in few drop doses. He would like to know what would be the effect in large doses, and what should be the maximum. A physician in Brooklyn is said to give it in teaspoonful doses in inflammatory affections.

Dr. Reamy replied that he knew a physician who gives 50 to 60 drops in acute rheumatism and reports speedy cures. Besides this he places the patient on an inclined plane, feet upward, at an angle of about 120.° An element of safety in its use is the fact that verat. vir. is a powerful emetic in large doses. For its remedial effects it ought to be given in small doses, three to four drops, frequently repeated. It is speedy in its action, which also passes off rapidly.

Dr. Thad. A. Reamy, having been requested to express his opinions, said, that while he agreed with the previous speaker as regards the etiology and pathology of typhoid fever, he could not with him entirely condemn the use of veratrum viride, and certainly not on the grounds given.

While we concede that typhoid fever depends on a specific germ we cannot yet define it, and consequently are not in a position to direct remedies to its destruction. Antiseptic treatment of the sick room, of the stools and other excreta from the body of the patient will largely prevent the germs from attaining vigorous activity however.

The objection just made that veratrum does not address itself to the cause of typhoid fever is unfair; the same objection could with equal propriety be urged against any other remedy. It is likewise unfair in criticising the use of veratrum as agent in the treatment of typhoid fever, to speak of its depressing action upon the heart alone. Everyone knows that one of the chief influences inducing the rapid action of the heart in this disease is the high temperature which prevails. Indeed it is probable that this is almost the exclusive cause of the rapid pulse, especially so, until the period of exhaustion has been reached.

The high temperature is not in these cases alone the product of rapid combustion, at least rapid combustion is not the prime cause, this must be sought for in the influence of the poison upon the nervous centres. This is true whether you recognize the possibility of locating thermogenic centres so-called or not.

In most cases of typhoid fever especially prior to the end of the second week, the temperature will be just as strikingly reduced by the administration of veratrum viride as the pulse. Since the violent action of the heart is due to the high temperature it cannot be claimed that the marked reduction of temperature after the administration of veratrum is due to the depressing effect of the agent upon the heart. Such a view must assume that by removing a symptom you remove a cause. Nothing could be more untherapeutic, nothing more unphilosophical. It must be granted therefore, that veratrum acts upon the nervous centers, either directly or indirectly, lessening the susceptibility of these centers to excitation by the poison.

Any agent which will, with considerable certainty, accomplish such results must be incalculably beneficial, unless such agent shall at the same time produce injurious results, either directly or remotely.

Speaking from his own clinical experience, purposely for the time being, excluding all other testimony, he was warranted in the assertion that this agent given in properly selected cases, those in which the pulse is not notably feeble from the onset, given at the proper stage of the disease, that is, during the first two weeks and in some cases up to the 18th day, will produce marked reduction both of temperature and pulse, without any bad results to counteract this good. He knew of no agent, whose action is depressing upon the heart, from the effects of which a patient will so promptly and certainly rally, within a reasonable time, and certainly there is no agent from the depressing effects of which a patient can be so speedily relieved by the administration of opiates, alcoholic stimulants, or ammonia.

He once saw a child but ten years old who had taken a teaspoonful of Norwood's tinct. Vomiting occurred of course, but under the influence of whisky with a few drops of tinct. of opium all depressing symptoms vanished. Of course the remedy is to be given in small doses, not more than two to four drops, every two to four hours, governed by its effect upon the temperature and pulse. In typhoid fever no attempt should be made to bring the pulse below the normal. Indeed it is better to be content with bringing it to 80 per minute. In a certain proportion of cases it will be found that its effect is to reduce the force but not the frequency of the heart's action. In such cases it will be found that the temperature is but little if any diminished. In any such case the remedy should be discontinued at once, for it will do harm instead of good. Such patients need stimulants early in the progress of the disease.

Now it has been justly stated, by a previous speaker, that typhoid fever is self-limited, runs a definite course, usually ending on the 21st day. But who does not know that in a considerable number of cases the disease is prolonged to forty or even fifty days, and this is true of cases where the protraction cannot be due to intestinal or other detectable lesions? The speaker had seen such cases. In other cases the temperature and pulse run an unusually high course, the former reaching within the first week 105°; an ominous fact to every experienced clinician, foretelling what may be expected of that case further on. To modify temperature and pulse in such cases is an important desideratum which, if accomplished, will unquestionably modify the duration of the disease and render prognosis much more favorable. The objection, therefore, that since the disease is self-limited it ought to receive no medication, is not tenable. Liebermeister has shown that under the calomel treatment, so called, the mortality is but 12 per cent; under the iodine treatment but 10 per cent. The gentleman who has just taken his seat quotes statistics to show that under no treatment the mortality is 20 per cent. These figures speak strongly in favor of medication notwithstanding the self-limitation of this disease as of others of an acute infectious character. The gentlemen expresses the gravest apprehension against veratrum lest it should produce fatal paralysis of the heart, an accident to which the subject of typhoid fever is peculiarly liable. But is it not well known that this extreme liability to paralysis of the heart is the result of degenerative changes in that muscle consequent upon prolonged high temperature? Changes which from the same cause are wrought not in the heart alone, but likewise in the kidneys, spleen, liver, and even the nervous tissue itself? These parenchymatous changes are not due, be it remembered, to the *degree* of temperature alone but chiefly to its long continuance. Can anything be plainer, therefore, than the proposition that if the temperature can be lowered from the onset of the disease one of the chief dangers can be averted. Veratrum is not recommended in the advanced stages after these changes have occurred. Here it would be objectionable on the very ground named, but in the earlier stages of the disease it is potent for good.

It is begging the question to say that cold baths will reduce the temperature, as they certainly will; that large doses of quinine will reduce the temperature, as every one knows they will. No one will deny the valuable effects of these agents, certainly no one would deprive a sufferer from high temperature of the boon, cold sponging. But the question is not now as between remedies, as remedies, but it is this: Is veratrum a proper remedy to employ in the treatment of typhoid fever? Speaking for himself he should answer this question affirmatively, without hesitation, but would, of course, guard the remedy according to the brief suggestions already expressed. The speaker believed it to be quite probable that many cases of typhoid fever subjected to this treatment during the first two weeks will be rendered comparatively mild, their termination at the end of three weeks guaranteed cases which otherwise would have proved severe, complicated, and protracted. Several years since the speaker had passed through an extensive epidemic of this disease, during which he had good opportunities for testing clinically the questions here raised. Though his special professional work now deprives him from seeing large numbers of cases, still he has a sufficient number each year to maintain his interest in the subject and to furnish corroborative proof of the truth of the views above expressed. He was quite certain that a large proportion of cases of typhoid fever seen in private practice are so mild as to need little or no medication. In all such cases the expectant plan is alone proper.

Dr. McMechan in concluding the discussion said, that while listening to Dr. Whittaker's argument against the use of veratrum viride in typhoid fever, he was so convinced of the truthfulness of his views that he almost formed a resolution never to use the remedy again. After listening to the convincing and forcible argument of Dr. Reamy in favor of the drug, he began to view it with almost as much favor as when he first advocated its use.

In reply to Dr. Whittaker's remarks in regard to the high mortality in the eight cases reported, the speaker would say that the Doctor probably did not understand the true nature of the cases, or else they were not reported in as clear and graphic a manner as should have been done. One patient whose case proved fatal was in a dying condition when he left the Hospital, and no hopes whatever were entertained of his recovery from the time of his admission. The other patient who died had been sick over seven weeks, although in the paper it was stated that his death was something of a surprise; still it is well known that a patient after suffering for seven weeks with typhoid fever is in a very weak and anæmic state. The patient had suffered considerably from diarrhœa, and as his abdomen was quite tympanitic there was undoubtedly considerable inflammation of Peyer's glands, and it may be, a perforation took place which caused the fatal termination of the case.

The per cent of deaths depend on the kind of cases treated; the speaker himself treated as many as fifteen cases of typhoid fever in succession without losing a patient; but in the next fifteen cases might have lost three or four. It would be a ridiculous presumption for anyone to say he had cured a large number of typhoid fever patients with but one remedy. Boinet and Arau proposed the iodine treatment for typhoid fever and used it with good success. Dr. Maganty used the same treatment in twenty-one cases in succession with good results. His cases must have been very mild or, to say the least, the Doctor must be given to gentle exaggeration.

If the report on the use of veratrum was read with care, it would be seen that the remedy was administered with the greatest caution, and in the later stages of the disease was given in only one or two drop doses. It would be ridiculous to depend on one remedy throughout the disease; but there certainly is a time during an attack of typhoid fever when veratrum viride may be used with the greatest success in quieting the action of the pulse and in reducing the temperature. Dr. Whittaker in his argument would not or did not acknowledge that veratrum acts as an antipyretic, but it certainly has this effect in a marked degree. When the temperature has been from 103° to 104° and has been reduced to 101° to 101.5° by the use of veratrum and has been kept at that point for a number of days, it must be acknowledged that the drug has valuable antipyretic qualities.

In conclusion the speaker said that although the paper called forth a caustic criticism from one gentleman, he felt highly complimented for the discussion it excited, and was convinced that whatever was said against veratrum viride in typhoid fever was done in the interest of truth and science. Even if the speaker might be mistaken in his views, the results in treatment as shown in his cases ought to be considered when this agent is used for the same purpose in the future.

MEDICAL ASSOCIATION OF DELAWARE COUNTY, OHIO.

Meeting of January 10th, 1882.

F. W. MORRISON, M.D., *President.* W. T. CLUTE, M.D., *Secretary.*

The Association was called to order by the President, the following members present: Drs. Welch, Cherry, Westbrook, Morrison, McDowell, A. W. Dumm, White, Constant, Hedges, Ropp, Hughes, Mercer, Keefer, S. C. Dumm, McCann, Crickard, McIntire, Cooner, Richards and Clute. Visitors: Dr. Goldrick, of Delaware, and Dr. W. E. Benton, of Little Sandusky.

This being the annual meeting, the election of officers for the year 1882 was held which resulted as follows: Dr. W. T. Ropp, President; Dr. J. W. N. Vogt, Vice-President; Dr. W. T. Clute, Secretary; Dr. A. H. Keefer, Corresponding Secretary; Dr. J. M. Cherry, Treasurer; Dr. F. W. Morrison, Librarian.

Dr. A. W. Dumm read an interesting paper on "Rheumatism," which was received and the following discussion on the subject resulted.

Dr. McDowell was not enthusiastic upon specific remedies in any disease, but thought salicylic acid a specific for rheumatism, if there is a specific. Thinks that we are afraid to give it in doses large enough. Pain will disappear in forty-eight hours, profuse sweating will be produced, with decrease of urates in the urine. Must continue the acid for three or four days after symptoms have subsided. Prefers the salicylic acid to the alkaline treatment.

Dr. Welch remarked that he knew nothing about the acid and but little about rheumatism. He attended a young lady with acute rheumatism with ankle joints badly swollen. Gave Dover's powders and had ankles wrapped up in towels wet with cold water. Next morning patient was able to be about. Attended another case, a woman, and used nitrate potass. and powdered opium, and found it to be an excellent remedy in grain doses. He thought he had a specific, but found by experience that he had not, and believes that no such thing as a specific for rheumatism has ever been discovered. It frequently occurs in healthy people without a depraved condition of the blood. The causes are as various as the causes of other diseases.

Dr. Goldrick said there were plenty of remedies but no available ones, and that nothing but constitutional treatment was of any use.

Dr. Hedges believed it well settled that the blood in rheumatism is always acid, and thought salicylic acid superior to other remedies, but did not advocate it in large doses. Uses nothing else with it except sustaining remedies.

Dr. Constant thought one remedy has really as much reputation as another. The main question is to decide *when* to use the remedy. He uses salicylate of soda most because the acid disagrees with the stomach. Uses salicylic acid in plethoric patients and salicylate of soda in anæmic patients with excellent results.

Dr. S. C. Dumm remarked that the causes are so different that we cannot lay down any special form of treatment. Tinct. ferri murias is often as good a remedy as can be found in chronic rheumatism. Aconite is a good remedy in some cases. Dr. D. related a case where he had left aconite and by mistake about ten times the amount ordered had been given. He was sent for and found the patient suffering from the symptoms of aconite poisoning. He administered the proper remedies and the patient recovered cured of the rheumatism. He thought that he had found a specific, but discovered his mistake upon further trial of the aconite. The physician ought to see that his patient is bathed frequently.

Dr. White said that when he treats a case of rheumatism and cures it he never knows how to treat the next. He cannot tell what to do until he sees the case, and has used all kinds of treatment. Dr. W. once prescribed veratrum viride and the patient was overdosed; cured the rheumatism; thought he had a specific but was afterwards undeceived.

Dr. McIntire said that he had never met with any benefit from salicylic acid and had used all the general remedies and found none of them to be a specific.

Dr. Ropp remarked that he has had no good results from salicylic acid. He once treated a lady for inflammatory rheumatism with aconite and gelsemium. The patient was overdosed and symptoms of poisoning produced and the rheumatism cured. He then treated a man with the same remedy, using large doses until tingling in the fingers resulted, but the rheumatism was not cured and his visions of a specific vanished.

The subject for discussion at the next meeting will be "Diphtheria."

The retiring President, Dr. F. W. Morrison, delivered a valedictory address, full of witticism and humor, which was well received by the members of the Association.

Votes of thanks were tendered Dr. Morrison and the Secretary, Dr. Clute (re-elected), for the able manner in which they had discharged their official duties and for their gentlemanly bearing towards the members.

The following resolution was unanimously passed:

Resolved, That no member of this Association shall take by contract the eity or township pauper business, at any price whatever by the year, under penalty of forfeiting his membership in this Association.

Adjourned to meet the second Tuesday in February. W.T.C.

Selections.

MEDICINE.

Vaccinal Skin-Eruptions.—One of the most interesting and instructive discussions which took place in the Section of Dermatology, at the meeting of the International Medical Congress in London, in August last, followed a paper by Dr. Gustav Behrend on Vaccinal Skin-Eruptions. Dr. Behrend's position as public vaccinator at Berlin had afforded him unusual facilities for observing these eruptions, and reports of seven cases were given in his paper.

The author divided vaccinal rashes into two classes, suggesting that in the case of the early ones (those which occur during the first three days), the vaccination wound itself might be a factor, whilst the latter ones (beginning from the eighth day) were probably due to absorption of certain materials from the developed pustule. The venerable Professor Hardy, of Paris, who was present, contributed from his ripe experience a number of facts of much value. He remarked that vaccine eruptions were of three kinds—generalized vaccinia, which, he said, is common; exanthematic eruptions, which occur before the development of the vaccine; and diathetic eruptions (eczema, etc.) often caused by vaccinia after the development of the vaccine pustule.

The power of the vaccine virus to produce general vascular disturbance (which is the interpretation I assign to the power to produce eruptions) was strikingly exemplified by the account of an illness experienced by M. Hardy himself. During the siege of Paris an epidemic of small-pox broke out in the beleaguered city, and M. Hardy having charge of a small-pox hospital, yielded to the solicitations of his pupils and had himself re-vaccinated. There followed, in consequence of the vaccination, an outbreak of urticaria (what the subject of it would term, I imagine, a case of diathetic eruption), which not only affected the skin, but attacked the bronchial mucous membrane, producing paroxysms of suffocation which threatened a fatal termination.

All practitioners of any experience must be able to recall cases in which the obstinate eczema in infants has first shown itself after vaccination, and other ailments of a general character are probably sometimes produced by the effect of the vaccine virus on the system in delicate persons. During the late epidemic of small-pox in London, I had occasion to meet with several cases in which patients attributed a temporary condition of depressed health to re-vaccination.

During this re-vaccination period, I had occasion to see in consultation a patient whose case may be worth recording as an example of what M. Hardy would call a diathetic vaccinal eruption.

A strong, healthy young woman, aged 25, had been vaccinated in infancy, and had good marks. She was re-vaccinated on May 6th in three places, and all of these "took." From the fifth to the ninth day there was much inflammation, the redness and swelling involving the whole arm from the shoulder to the elbow. On May 18th, two circular marks appeared over the extensor surface of the distal joint of the thumb of the left hand, and on May 20th, the eruption had appeared over the knuckles. When I first saw her, on May 23rd, I found her suffering from an attack of erythema papulatum on the knuckles, elbows, knees, front of neck, flexor surfaces of the wrists, and *palms;* the eruption being in some parts characterized by so much serous effusion as almost to justify the name *herpes iris* (which is merely a more acute manifestation of erythema papulatum).

The eruption did not differ from that usually found in erythema papulatum, a disease sufficiently common, more especially in spring and autumn, to have come under the notice of most practitioners, and described in all text-books in which skin diseases are described. Although the eruption ran its usual course, in this case it was in one respect exceptional in its distribution. The seat of erythema papulatum is usually on the dorsal surface of the hand, and the palms are spared; the authorities, so far as I have been able to examine them, being unanimous on this point. But in my patient the eruption was freely out on the palms of both hand and on the palmar surface of the fingers.

Hebra (*Hautkrankheiten*, vol. i., page 125) remarks that cases had been observed in which, where the patients had previously suffered from syphilis, an eruption of erythema papulatum had appeared both on the palms and backs of the hands.

The young woman whose case I am relating presented the appearance of vigorous health, and her ordinary medical attendant assures me that there is no room for any suspicion of syphilis.

Whether the exceptional appearance of the eruption on the palms has any connection with the vaccine virus as a provoking cause, it is impossible to say, but its occurrence in this case deserves to be recorded.

M. Hardy remarked, at the meeting of the Congress, that he had observed a gangrenous form of vaccine eruption ending in death, but that such cases are exceedingly rare. Last year, the dead body of an infant which had died of vaccinia gangrenosa was shown at a meeting of the Medical and Chirurgical Society, by Mr. Hutchinson. There are yet no data by which such cases can be explained, but that they should occur need not in itself excite so much surprise. The virus produces, at its point of insertion, inflammation and destruction of tissue (cicatrix, to witness), and in its multiplication in the system it is not wonderful that inflammatory effects should be produced at certain points. Where inflammation is produced, all grades of destruction of tissue are possible.

Although in the very great majority of cases no troublesome effects on the skin are produced by vaccination, it is desirable that their occasional occurrence should be fully recognized by the profession. The overpowering arguments in favor of vaccination are not weakened by such exceptional cases; and as their occurrence does not escape the notice of the public, the legitimate influence of the medical attendant can only be strengthened by his being able to admit and to explain their existence.—Geo. Thin, in *Edinburg Medical Journal.*

A FORM OF DYSPEPSIA OCCURRING IN INFANTS. Dr. Arthur Hill Hassall (*London Lancet*, December 3d) calls attention to a form of infantile dyspepsia arising from the inability on the part of the infant to digest the casein of milk, and advocates the admixture of malt with wheat flour, sugar, and water to the milk to prevent the casein from coagulating in masses and thus rendering it difficult of digestion. He gives the case of an infant, fed exclusively on mother's milk for the first four months, which was in the habit of throwing up, after nearly every feeding, a large quantity of coagulated casein, while the same was passed by stool in still greater amounts. The stools were almost colorless, with occasional patches of yellow or green; they were frequent, often very offensive, and there were constant attacks of distressing flatulent colic. The child was weaned at four months, and single cow's milk, properly diluted, together with various remedies, was tried at different times, without any amelioration of the symptoms. The milk was then boiled and diluted, without any better results. Finally, however, it occured to Hassall that if the casein were broken up in the stomach into small particles, digestion would then more readily follow. Having put the infant upon the mixture of malt and wheat flour, sugar, milk, and water, the effects were immediate and most satisfactory. The looseness and colic ceased; the motion became of soft consistency and of a natural and uniform yellow color, and quite inoffensive. He attributes the change in the child's condition to the alteration in the physical condition of the casein by its admixture with starchy food, and not to a simple reduction in its amount. He also mentions a case in which the most painful consequences resulted from eating cooked or uncooked eggs, or even the smallest quantity of egg in a sauce or ice, but which individual could take eggs, or the white of them, provided they had been broken up by mixing and cooking with flour.—*Medical Times.*

THE PATHOLOGY AND TREATMENT OF THE DIARRHŒA OF PHTHISIS.—Dr. C. T. Williams has a series of articles upon this subject in the *Lancet.* He divides the different diarrhœas of phthisis into three classes. The first includes those simply due to irritation or a catarrh of the intestines. The treatment consists simply in altering the dietary and a few doses of alterative and purgative medicine, with some alkali to reduce the acidity. The second form is that arising from ulceration. The ulcers usually begin in the small intestine, near the ileo-cæcal valve; as the ulceration progresses, however, the large intestine becomes most affected. The treatment of this form requires very careful attention. It resolves itself into three sets or measures: 1. Rest in bed with the administration of easily assimilable food, such as chicken-broth, beef and veal tea, milk-gruel, blanc-mange, always combined with *liquor pancreaticus*, after the methods described by Dr. Wm. Roberts. Koumis is also highly recommended. 2. Warm applications to the abdomen, in the form of linseed poultices, turpentine stupes, or hot-water fomentations, to reduce the pain and produce derivation to the skin. In severe pain small blisters are useful. 3. Internal medicines: bismuth and opium will answer in slight cases. The most powerful astringent is sulphate of copper in one-quarter or one-half grain doses. Of vegetable astringents, tannic acid is the best, in four-grain doses. Indian ball is often efficacious. If the ulcerations are largely in the colon, injections or suppositories are often needed. The ordinary enemata of lead and opium will sometimes answer, but in severe cases a pint or a pint and a half of linseed tea, combined with medicines, are needed. Linseed tea seems to be especially efficacious. The third form of diarrhœa is due to waxy degeneration of the intestinal wall. This is hard to deal with successfully. The waxy degeneration indicates a need for phosphates of potash. The diarrhœa can only be treated, as in other diarrhœas, by the use of astringents.—*Can. Lancet.*

TREATMENT OF PHTHISIS.—M. Debove had in his service, a phthisical woman who could no longer support milk, and he decided to feed her through an œsophageal sound. By this means he administered at first a litre of pure milk, later meat and eggs. He succeeded in injecting two litres of milk, 200 grammes of meat and 10 eggs in a day. The most singular part is that the patient's appetite returned, she increased in weight 100 grammes a day, sleeps well, and night sweats have disappeared.—*France Médicale—St. Louis Medical and Surgical Journal.*

DIABETES INSIPIDUS TREATED BY ELECTRICITY. C. H., aged thirty-five, housewife. This woman presented herself as an out-patient at the Kidderminster Infirmary in October, 1878, suffering from diuresis. She was at that time passing from eighteen to twenty pints of urine per diem. It was light-colored, of very low specific gravity, and contained no sugar. The drugs that are recommended for this disease—namely, iron, nux vomica, valerian, and bromide of potassium, were all tried in turn, but without any marked effect. The woman at this time was losing flesh. She was then ordered electricity (faradaism) to be applied over the region of her kidneys every day for about twenty minutes at a time. In the table below is given the daily average for each week of the amount of urine in ounces during the time this treatment was continued:

	DAILY AVERAGE.		DAILY AVERAGE.
1st week	......237 oz.	11th week	.....151 oz.
2nd "	......217 "	12th "	.....154 "
3rd "	......163 "	13th "	.....154 "
4th "	......154 "	14th "	.....123 "
5th "	......135 "	15th "	.....103 "
6th "	......113 "	16th "	.....130 "
7th "	......140 "	17th "	.....129 "
8th "	......157 "	18th "	.....123 "
9th "	......168 "	19th "	.....108 "
10th "	......160 "	20th "	.....117 "

This shows that there was a great improvement up to the seventh week, after this the daily average is seen to vary but slightly. At the end of the twentieth week all treatment was left off. During this time she had improved in her general health. She was seen six months afterwards, and was found much in the same state, as when she left off using the battery. She was no worse, but was still passing from six to seven pints of urine daily. This case shows that this treatment (probably the most rational of all) for this disease may be tried with advantage.—C. P. B. Clubbe, in *London Lancet.*

SIMPLE METHOD FOR THE CURE OF OZÆNA.—Dr. Gottestein (*Gazz. Med. di Roma*) considers ozæna as a constant symptom of chronic coryza. There is no doubt that, after the interference with the function of the glands, there is a diminution and alteration of the nasal secretion. Part of it, drying rapidly, adheres to the mucous membrane, on which it forms crusts, and it is the decomposition of these which is the cause of the odor. It is, therefore, only necessary that a limited portion of the mucous membrane should undergo atrophy to give origin to an ozæna. In adopting this theory of ozæna, it is evident that there can be no question of radical cure, since it cannot be hoped that the secretion of an atrophied mucous membrane can ever become normally reëstablished. We must therefore be satisfied with the treatment of symptoms which is the most simple and convenient for the patient.

The author was led by chance to employ the following method, from which he has already, in fifteen cases of ozæna, seen the best results in less than three months.

Dr. Gottestein commences the treatment with a nasal douche, which, by freeing the cavity from its secretions, permits the recognition of the character of the mucous membrane and the extent of the lesion. This is followed by the introduction of a tampon of cotton, 3–5 centimetres long, which should remain in position for twenty-four hours.

About an hour and a half after the introduction of the cotton, there is a little secretion from the nose. When the tampon is withdrawn, the secretion is found to be fluid and without crust or odor. Twenty-four hours can be allowed to elapse between two applications of the tampon. When both sides of the nose are affected, the nose can be tamponed every twenty-four hours on the alternate sides. The tampons cause an artificial contraction of the cavities, and so increase the action of the column of air and facilitate the expulsion of the secretions, which are absorbed as rapidly as they are formed, and their desiccation is thereby prevented.—*L'Union Méd.*, November 27, 1881—*Medical News.*

NEW TREATMENT OF SYPHILIS.—M. Martineau has published the result of a large number of cases of syphilis treated by a new method at the Hospital Lourcine. The preparation employed consists of powdered peptone, chloride of ammonium, and bichloride of mercury, which are dissolved in water and glycerine. In order to have a standard solution which shall contain five centigrams (.02 grain) in a gram, the following proportions are taken:

℞. Powdered peptone (Catillon), grs. ix.; chloride of ammonium, grs. ix.; bichloride of mercury, grs. vj. M.

These are dissolved in glycerine, seventy-two grams; water, twenty-four grams. This solution, which the author calls "normal," further diluted with five parts of distilled water, is of such strength that an ordinary French hypodermic syringeful represents ten milligrams, or one-fifth of a grain of corrosive sublimate. The solution is injected subcutaneously, and the dose employed by M. Martineau has varied from two milligrams (1/25 grain) to ten (⅕ grain) of bichloride of mercury. Altogether one hundred and seventy-two patients have been under observation, and a total number of three thousand eight hundred and thirty-eight hypodermic injections made. No abscesses or sloughs have ever followed the operation; sometimes a defective injection has given rise to a lump, but this has always rapidly disappeared. There is never either stomatitis or salivation, even with one-fifth of a grain of the mercuric salt daily.—*Medical Digest.*

CARBOLIC ACID AS AN ANTIPYRETIC.—If the results obtained in some recent experiments are to be relied upon, we have in carbolic acid very good means of reducing the bodily temperature. After its administration in doses of 15 grains a day in cases of typhoid fever, there was observed, according to M. Raymond (communication to the Société de Biologie), a very marked fall in the temperature of the patient, a reduction varying from 3·4 degrees Centigrade, and at the same time a well marked diaphoresis. If larger doses than fifteen grains a day are given, there is apt to be symptoms of carbolic acid poisoning, carboluria, with a reduction of the temperature to 30 degrees Centigrade. At the suggestion of M. Vulpian carbolate of soda in doses of 20 grains daily was tried in place of the carbolic acid, and antipyretic effects were manifested, and no toxic symptoms appeared. According to M. Raymond the remedy can be advantageously used in any stage of typhoid fever. It would at least seem that this method of treating typhoid fever deserves attention.

How does the remedy act? Probably by its disinfectant and antiseptic qualities, that is to say by destroying the germs which cause the disease.—*L'union Médicale de Canada.*

LOCAL TREATMENT OF DIPHTHERIA. — Dr. Morell McKenzie, at the late International Medical Congress, laid down the following rules on the local treatment of diphtheria:

1. Ice is useful in first stage, both internally and applied externally to the neck; contraindicated when it causes pain, in young children, in advanced stages, and especially if gangrene be present.

2. Steam inhalations of great service when the false membrane shows a disposition to separate, and when it is situated in the larynx or trachea.

3. Solvents administered by swabbing, or in the form of spray, often highly beneficial. Lime water and lactic acid the best.

4. Antiseptic very important; carbolic acid, permanganate of potash, and chloral hydrate; the last being the most certain.

6. Antærics, or varnishes, *i.e.*, remedies which exclude the air from the false membrane. Tolu dissolved in ether is the most serviceable; simultaneous employment of other local remedies, (ice, steam) not prevented by the use of these agents.

6. Caustics are always injurious, whilst astringents are useless and sometimes hurtful.

THE TREATMENT OF PSORIASIS AND ECZEMA BY MEANS OF NAPHTHOL.—Kaposi has recently experimented with naphthol in three cases of inveterate psoriasis which appeared in women between the ages of twenty and twenty-five. In all three the scales were removed by one application of a salve of the strength of 15 100. After six or eight applications the patches became of a pale rose color, and were less elevated; after sixteen or twenty applications, they had become so pale, that by comparison with the healthy skin in the neighborhood the patches seemed to have lost their normal pigment as in a case of vertigo.

In cases of squamous and interiginous eczema, naphthol was found to be of great efficacy in combatting the hyperæmia, the itching, the degeneration, and in causing the regeneration of the epithelium.

At first Kaposi used the drug with alcohol in the proportion of 5 parts to 40, but the solution was found too strong and the naphthol was decreased to 1 even to ½ to 100. In some cases the solution used was only ¼ to 100. Even in this strength it is not entirely an innocent application like carbolic and salicylic acid. It should be used with great care or the lesions will be aggravated. It is necessary also to choose the proper moment to apply it, which is, in general, when the eczematous patch, although hyperæmic, is not sensibibly warmer than the healthy skin.

After two to four applications of the solution of the strength of from ½-2 to 100, the itching is relieved and the skin regains its natural color. Finally in a few days the skin becomes brownish yellow and the epidermis peels off in large very thin layers. The application must then be stopped. If it is continued the disease becomes aggravated.

If the application causes hyperæmia or if the skin becomes cracked, it must not be continued.

Naphthol has given good results in some cases of seborrhœa of prurigo, in one case of ichthyosis and in a case of lupus erythematodes. In eight cases of lupus vulgaris and in nine of epithelioma naphthol was wholly without good result.—*Bulletin General de Therapeutique.*

WOOL-SORTERS' DISEASE. — Mr. Spear has recently published his official report, which establishes the identity of the wool-sorters' disease with anthrax. The symptomatology and anatomy of this affection are fully discussed, and certain interesting observations are advanced in regard to its pathology. The usual classification of anthrax into an "external" and "internal" form is observed throughout the report. In many instances, however, there is a wide divergence from the development and progress of typical cases. The malignant pustule may appear, not as an initial lesion, but as a local manifestation of constitutional infection, and a "minor pustule" is apt to attack the hands of those working on infectious material, a pustule very different from the typical form, but closely resembling the lesion resulting from only partially successful inoculation of anthrax virus upon carnivorous animals, and similar to that produced by Pasteur's "attenuated virus" in the herbivora. In the other variety of the disease, the anthrax fever, still more important deviations from the accepted type are described, and although the German and French observers look upon the affection as almost always fatal, Mr. Spear concludes that only a moderate number of cases terminate unfavorably. Again, while one man may be stricken down by a rapidly fatal malady, his comrade, working in the same material, may also be affected, but by a form of the disease which stops short of the severer symptoms, and ultimately goes on to recovery. The histories of long-continued malaise, also, among woolsorters are numerous. The symptoms are much like those of the prodromal stage of acute infection—headache, depression, nausea, dimness of sight, cramps, restless sleep, with the occasional appearance of cutaneous eruptions, petechiæ, boils or herpes. At times an apparent periodicity is observed in the subjective symptoms. Such manifestations may occasionally occur as prodromata of an acute attack of the disease; more often, however, they disappear spontaneously. The author admits the possibility of a chronic anthracoid poisoning, the analogue of which may be found in malarial disease. The operation of the virus from its very inception is peculiarly inconstant. Incubation may be deferred by long periods of latency; full development may be delayed by prolonged and intermittent prodromata; often the disease aborts. At first, and for a variable time, the virus is "barely able to prolong its existence;" either the removal of unknown obstacles, however, or the addition to the blood, or secretions, of agents promoting the development of the poison, or both these contingencies, enables the infectious material to exert its full sway, and the disease to run its fatal course. To explain the unequal receptivity to the poison, Mr. Spear revives an old theory, that of the eating of more or less crude vegetables and fruit. Guided by the well-known predilection of this contagium for herbivorous animals, and by the fact that flesh-fed rats prove refractory to inoculation with anthrax virus, while the same rats fed on vegetables quickly succumb, the author was led to inquire into the alimentation of the woolsorters who had suffered from acute attacks of anthrax fever. He found that in nearly every case in which information was obtainable, the development of urgent symptoms has supervened upon the ingestion of an unusual quantity of vegetable food in some form or other. Again, in several cases of remissien of the symptoms, a relapse seemed to follow the eating of vegetable food. In Constantinople also, where the external form of the disease is well known, the eating of vegetables and fruit during an attack is regarded as "especially dangerous." The evidence appears to be strong and circumstantial so far as such evidence can be. The experiments of Feser are now very generally accepted by continental authorities as indicating that the relative immunity of the carnivora is not inherent to the genus, but is influenced by the nature of their food. The immunity of the fœtus is now regarded as dependent on the fact that it is really a carnivorous animal, not on any filtering action of the placenta. As Mr. Spear says: "It is conceivable that alimentary substances may bring about in the body such chemical or morphological changes as will render its fluids a richer field for the proliferation of disease-germs."—*British Medical Journal.*

PROLAPSE OF THE LARYNGEAL SAC.—Dr. J. S. Cohen relates a peculiar case of this character in the *Archives of Laryngology*, for January, 1882. The patient was a physician who suffered from aphonia with slight stridor in inspiration and which occurred suddenly during an attack of coughing, while he was suffering from bronchitis. Examination detected a prolapse of the laryngeal sac which overhung the right vocal cord in great extent, and thus occluded the glottis. Palpation with a bent probe, by which means the protrusion could in part be temporarily replaced, confirmed the diagnosis. The physician was advised to treat the part himself by some astringent insufflation. At the end of one year his voice had much improved, being somewhat hoarse, and the anterior half of the prolapsed structure was replaced. Treatment continued.

TRANSFORMATION OF ALCOHOL IN THE SYSTEM. M. Jaillet submitted to the Société d'Emulation, the results of some recent observations on this subject. He affirms that the blood mixed with a certain quantity of alcohol in presence of oxygen transforms alcohol into acetic ether, and that the blood globules, as has been stated by Pasteur, is a ferment cell which carries on in an alkaline solution the same process as the yeast of beer. Oxygen absorbed by the hæmoglobulin passes to the state of nascent or active oxygen, which is able to oxydise promptly and totally all the alcohol which enters the blood current. His conclusions are:

1. Alcohol ingested by the stomach is in part decomposed by the natural ferments with which it immediately comes in contact (the gastric juice, saliva, pancreatic juice, etc.), aided by the mysterious and destructive action of the liver. From this organ the alcohol passes in venous blood to the lungs, where it is widely diffused, a small quantity eliminated in the natural state, but the principal part is transformed into acetic ether. Finally the oxidation of the alcohol is accomplished in the systemic circulation where the acetates formed are totally burned.

2. When alcohol is absorbed after subcutaneous administration, the conditions are changed. The alcohol immediately enters the systemic circulation, arrives at the heart, then the lungs, and as it reaches these organs quickly and in large quantity, it is freely eliminated, as shown by

MM. Perrin, Duroy, and Lallemand. Administered subcutaneously, there can be no action of the ferments of the organism; the liver does not affect the disintegration, for the alcohol has meanwhile been imbibed by all the tissues, and is diffused generally, without having been subjected to any modifying influences.

3. Alcohol is a substance which arrests respiration by preventing hæmatosis; in a word, alcohol asphyxiates without being in itself a poison. In the process of its transformation into acetic acid alcohol utilizes the oxygen being conveyed to the tissues by the blood globules, and it thus diminishes combustion in the body. This fact explains its antipyretic action. Death by alcohol is an asphyxia by carbonic acid, and we have found in animals and in man all the symptoms and the anatomical conditions of this asphyxia. It can thus be readily comprehended why alcohol, in the form of vapor, is so much more dangerous than alcoholic drinks, and produces so much more rapidly serious symptoms of poisoning.—*Journal de Therapeutique.—Medical News.*

TREATMENT OF LEUCORRHŒA IN CHILDREN.—Leucorrhœa in children, says M. Bouchut (*Practitioner; from Le Practicien*), is caused by vulvitis, not vaginitis or metritis. He therefore treats this condition by extreme cleanliness, repeated bathing with bran-water and lead-water, lotions of corrosive sublimate (two grains to ten ounces of water), carbolic acid (two grains to the ounce), and occasionally solution of nitrate of silver (three grains to the ounce). In the intervals of applying the lotions a pledget of lint saturated with coal-tar or an ointment of red precipitate may be placed between the labia. Such a pledget kept in place by a pad protects the surrounding parts as well as the labia themselves from the irritating secretion which is often present in considerable quantities. For the general treatment M. Bouchut recommends the administration of codliver oil and quinine to strumous patients, and of arsenic to those with eczematous eruptions.

COMMUNICATION OF SYPHILIS BY SKIN-GRAFTING.—Dr. Deubel communicated the following case to the Société Médical des Hopitaux: A man, aged forty-nine, who had never contracted venereal disease, became, in January, 1881, the subject of gangrenous erysipelas of the thigh, which was attended with a large ulceration, having its starting point in the superficial ulceration of some hæmorrhoids, that, except at some isolated points, refused to cicatrize. On March 7, forty-five dermo-epidermic grafts, furnished by five persons, were inserted, and thirty-three of these contracted adhesions; and twenty other grafts taken from seven persons, aged from twenty to forty years, were placed on another part of the wound on the 23d, thirty of the number retaining their vitality. Grafts from the mucous membrane of the mouth of a rabbit were also employed, and on the 23d of March forty new grafts, taken from persons aged from twelve to fifty-four years, were applied. Cicatrization went on satisfactorily until April 5, when ulceration commenced in the now almost cicatrized wound where the first grafts had been planted, and soon destroyed the cicatrization. The grafts applied on the second occasion did not ulcerate, but became pale and fell off. The new ulceration had a syphilitic aspect; but the man's wife, who had nursed him, having also been seized with erysipelas which proved fatal, and a lodger suffering from lymphangitis, it was concluded that the whole had arisen from infectious causes due to the very unsanitary condition of the above in which they all resided. The ulcerations improved on being touched with nitrate of silver, but new ones kept appearing during the next three months, and ten weeks after the first application of the grafts the skin and scalp became the seat of syphilitic eruption, and some weeks later the mucous membrane of the mouth was affected. A mercurial and iodide treatment was put into force, and eight months after the first appearance of the erysipelas the breach of surface became entirely cicatrized. It turned out that a son, who had furnished some of the grafts, was the subject of syphilis.—*Gaz. Méd. de Paris,* November 5, 1881.

THE GERM OF DIPHTHERIA.—M. Talamon has succeeded in isolating the germ of diphtheria in patients suffering from the disease. He cultivated the germ and inoculated rabbits with it who soon died, but without, it is true, showing post mortem any of the lesions characteristic of diphtheria. Some kittens, however, that were shut up in the room with the rabbits, contracted the disease and succumbed to it. There was found on post mortem examination that a false membrane had spread over parts of the pharynx, trachea and bronchi, which presented all the characteristics of a diphtheritic membrane. A microscopical examination revealed the presence of the microbe.—*Lyon Médical.*

PROGNOSIS OF LARYNGEAL PHTHISIS.—In a paper on this subject, published in the *Archives of Laryngology*, Dr. Wm. Porter, in answering the question: Is laryngeal phthisis necessarily fatal?, says that at present the recorded opinions of authority teach that laryngeal phthisis may only be retarded, that it is progressive and ultimately fatal. Heinze says "a cure of laryngeal tuberculosis will most probably never be made." And Lennox Browne voices the generally received opinion when he says "Not even the most sanguine throat specialist is yet justified, according to our experience, in giving even a moderately hopeful opinion as to result."

In his paper Dr. Porter does not subscribe to this doctrine of the inevitable fatality of laryngeal phthisis and relates briefly three typical cases which appear to support his view of their possible recovery. In each of these cases there was also disease of the lung tissue.

In the discussion which followed, Dr. A. H. Smith summed up his views in his concluding remarks, when he said that while it was barely possible that something might be done in the early stages, yet in going through the wards with his students, in speaking of those cases in which there was involvement also of the lungs, he almost envies the veterinary surgeons, who after making careful pathological and diagnostic observations sum up the treatment in the words: "Axeto os frontis."

Dr. Johnson alluded to a point upon which he was accustomed to rely whenever in cases in which there is no other trouble to account for the increased bodily heat, he finds chronic laryngitis associated with an irregular elevation of temperature, he gives a more serious prognosis than when the temperature is normal. He recalled one case of tubercular laryngitis in which there was ulceration and loss of the posterior portion of one of the ventricular bands, and which he considered cured. The patient remained free from it until after the lapse of several years when pulmonary disease developed, of which he died.

Dr. Bosworth said that in the diagnosis the club-shaped arytenoids and appearances of infiltration were of value in deciding the presence of tubercular laryngeal phthisis, particularly in its early stage. He insisted that in such cases the introduction of brushes or sponges into the larynx only increases the tendency to ulceration and hastens a fatal issue. If only medicated or detergent sprays be used the prognosis is better. Three years ago he had reported thirty-seven cases of laryngeal phthisis as arrested; he had now increased his list to sixty cases; among these were quite a number in which there was laryngeal ulceration. But in cases in which there is well-marked elevation of temperature, lung symptoms are certain, after a while, to develop and carry off the patient.

Phosphide of Zinc in Locomotor Ataxia.—Two cases of ataxia are reported by Dr. Hastings Burroughs, of Paris, in which very great benefit was obtained by the use of phosphide of zinc. The drug was given in doses of one-tenth of a grain per day, increased to half a grain per day. *Medical Press and Circular.*

OPHTHALMOLOGY.

Opacity of the Vitreous Body.—At a recent meeting of the Académie de Médecine Dr. Teulon read an interesting report on opacity of the vitreous body and its treatment by electrotherapy. In twenty-four patients observed by him and treated by the continuous current, he reckoned twenty-two radically cured. He employs a very low number of elements, and applies the positive pole upon the closed eyelids, and the negative on the mastoid process or upon the superior cervical ganglion. The application lasts only two or three minutes In conclusion, M. Teulon observed that in every opacity of the vitreous body, no matter what may be its degree or extent, provided that its development has not assumed the confirmed form of hypertrophy, from experience he considered the constant continued currents as the most efficacious treatment. *Medical Press and Circular.*

Prof. Ernst Hæckel, the German biologist, is engaged on a scientific mission in Ceylon, after completing which he will proceed to India.

SURGERY.

The Electrolytic Treatment of Malignant Tumors.—Prof. Semmola, of the University of Naples, had intended to read a paper on the use of electricity in the local treatment of malignant tumors at the late meeting of the International Medical Congress. He was unable, however, to attend, but the subject, although not new, possesses so much interest that the facts he intended to record are worthy of notice. His experience was gained in the treatment of six case—one of epithelium of the right breast the size of an orange, a fibro-sarcoma of the right breast, two cases of sarcoma of the right breast, one case of sarcoma of the left breast, and one cysto-sarcomatous tumor growing from the upper third of the arm. In five of the cases amputation of the diseased part had been recommended by experienced surgeons, and the sixth was a case of recurrence eighteen months after the removal of the primary sarcomatous tumor. The tumors are said to have all the clinical characters of malignant growths, and to have been examined microscopically by Prof. Petrone. The needles employed were the steel needles in common use for electrolytic purposes, and they were passed deeply into the tumor, converging towards its center. In his earlier experiments only the negative pole was thus inserted, the positive pole being placed on the chest, but in the later ones he found it beneficial to pass in both poles of the battery. The batteries used were Stöhrer's and Onimus'; with the former the deviation of the galvanometer was 90°; with the latter 60° to 75°. In small tumors one inserted needle was found sufficient, but Dr. Semmola believes that he has obtained a more settled action. As a rule, passing the needle causes next to no pain or difficulty, but at times small sclerotic foci interfere with their transit. Very rarely did any painful inflammation attack the spots of puncture. The constant current should be used frequently, even three times in the twenty-four hours, and allowed to flow through the new growth for an hour each time. A weak current long continued seemed to be better in its effects than a stronger current acting only for a short interval, and it is stated that the former has a greater modifying effect upon the local chemistry of nutrition. While the current is passing the galvanometer oscillates between 10° and 15°. This shows that there is some modification in the resistance offered by the tissues, and is a mark of the change produced by the current. In one case the treatment was ended in twenty-four sittings, but in another it extended over seven months. In the case of cystic sarcoma after two applications of electricity inflammation and destructive suppuration set in. In none of the cases were the lymphatic glands affected. Dr. Semnola suggests that electrolysis cures malignant tumors in one of three ways—by producing small foci of inflammation with consecutive sclerosis, the tumor being converted into a small, indurated, and harmless lump; by producing a colloid and fatty degeneration, especially in tumors with this tendency; and by exciting destructive inflammation and suppuration of the tumor. Along with this local treatment in all his cases Dr. Semmola has combined the administration of large doses of iodide of potassium with the view of gravely modifying the general nutrition.—*London Lancet.*

Nerve Stretching in Artificial Cerebral Paralysis and Contracture.—At the meeting of the Société de Biologie, on November 19th, M. Brown-Sequard presented a monkey in whom he had four months before extirpated the motor centre of the left leg, which was followed by paralysis of the left leg, then atrophy and contracture in flexion; the limb also became three centimetres shorter. Twenty days before the report was made, M. Brown-Sequard stretched, with a two-pound weight, the left sciatic for five minutes; immediately afterwards the paralysis was increased, but the contracture diminished, and an hour after the experiment the limb had gained a centimentre in length, the next day one-half centimetre, and five days later both limbs were of the same length; the paralysis was also much improved after four or five days. There was then a partial return of the contracture, and the author proposed to again stretch the left sciatic, and report on the result.—*Le Progrès Médicale*, November 26, 1881—*Medical News.*

Treatment of Hydrocele and Serous Cysts in General by the Injection of Carbolic Acid.—Dr. Levis states that he has been experimenting, with a view of determining what substance may best secure the obliteration of the secreting surface and the adhesion of the walls of the cyst with the most certainty and the greatest freedom from suffering and danger. Having selected carbolic acid as an agent which would provoke simply a plastic inflammation, he injected one drachm of the deliquesced crystals into the sac of a large hydrocele. The new procedure was entirely painless. A sense of numbness alone was experienced, and no inconvenience was felt until, on the next day, the desired inflammatory process developed. A nine years' hospital and private experience leads the author to believe that this method is the most satisfactory for the object. For the purpose of injection, crystallized carbolic acid is maintained in a liquefied state by a five or ten per cent solution of either water or glycerine; the crystals are to be reduced to the fluid state with no more dilution than may be necessary for this. After the usual tapping, he injects the liquefied crystals with a syringe having a nozzle sufficiently slender and long enough to reach entirely through the canula. He has never been able to detect any general toxic effects upon the system, but believes that the action of strong carbolic acid on surfaces secreting albuminous fluids is to seal them, to shut them off from the system in such a manner that absorption cannot readily take place. The occluding influence of strong carbolic acid he regards as an important surgical resource in certain cases of compound fracture, destructively lacerated wounds, and ulcerating surfaces, where septic infection is inevitable. All forms of serous cysts which are usually subjected to any form of operative treatment, on the principle of producing plastic adhesion of their walls, may be deemed amenable to the treatment indicated.—*Medical Record.*

Three Cases of Unusual Deformity of Anus.—A male child, aged six months, was taken to the hospital on account of the pain which he suffered whenever motions were passed. The pain was such as to cause the child to cry continuously before and after the bowels were relieved. The body was well formed and otherwise healthy, but on examining the anus, which was of usual size and in proper position, there was found to be a band of tissue passing from a point corresponding to the apex of the coccyx to the median raphe of the scrotum, with the posterior extremity of which it was continuous. The band was about three-quarters of an inch long, and was attached at both ends, the remainder forming a thick free cord which lay below the aperture of the anus, while from the centre of this band there ran a small branch of similar tissue, which was attached to the skin of the left buttock, and was about half an inch in length. The skin which covered the central band exactly resembled that of the scrotum, shrinking and contracting upon stimulation, and it was so placed that any matter passed per anum must cause it to be stretched, thus accounting for the pain which attended every relief of the bowels. The whole band was removed by cutting the attached ends with scissors. The wound healed at once, and the child was relieved of all pain.

A male child, aged four months, was seen at the hospital, and the following history was given. There were four older children, all healthy. The mother believed that this child was born a fortnight before his time, but he had thrived well, and was now a healthy, well-made boy. When born he was small, and cried continuously for the first four days. From the Wednesday night he was born until the following Saturday there was no motion passed, and the child was seen by a doctor, who found that the anus was not patent, but closed by a membrane. Soon after this the membrane gave way, and a very copious motion was passed. The child continued to suffer pain when the bowels were relieved. On examining the parts, there was seen a small thick band passing from the median raphe of the perineum in front to the depression between the buttocks posteriorly, the broadest behind. At a spot corresponding to the anus on either side of the band was a depression; that on the right side was patent, and admitted a probe to pass into the anus; that on the left side, though similar in appearance, proved only a cul-de-sac. Motions passed freely, but caused much distress. The band was snipped off, and the child relieved of pain.

A girl, aged seven months, was brought from the country on account of a deformity of the anus. She was the fourth child of young and healthy parents and was plump and well-formed. She was three months old before it was noticed that the "back passage" was not naturally formed, but difficulty was then observed in passing the fæces, which were of natural color and consistence. On examination the following condition was found to exist. At the usual spot for the anus was a depression, and the parts around were so far natural that the skin was pigmented and pucked, but there was no communication with the rectum. The spot at which the fæces made their exit was in the middle line about half-way between this depression and the posterior commissure, but nearer the latter than the former. The opening was very small, and a probe passed up it showed that there was plenty of tissue between the passage and the vagina. Operation was deferred in order that the child's health might not be interfered with; but a few months later she was brought to the hospital as the bowels had been constipated and the passage of a motion caused pain, and on one occasion blood had been found to follow an evacuation. The child was placed under the influence of chloroform and the sphincter freely divided by cutting forwards from the tip of the coccyx, through the anal depression to the posterior edge of the abnormal opening. Stitches of catgut were passed through the mucous membrane, and this being freed from its attachments was sewn to the edges of the depression in the natural position. There was very little bleeding, and the child did not suffer from the operation. Two days subsequently a motion was passed without pain, and the child has had no subsequent trouble, the anus being now in the proper position.—Mr. John H. Morgan in *London Lancet.*

MANIPULATION OF THE SCAPULA IN DISLOCATION OF THE SHOULDER.—The patient being completely stripped as far as the upper part of the body is concerned is either made to lie on a couch or a bed, or he can be, from my last experience, easily manipulated in a sitting posture. Take for example dislocation of the left shoulder. The left wrist is grasped with the left hand, and the arm gently abducted; the fingers of the right hand are then firmly pushed between the head of the humerus and the wall of thorax, when with a sweep of the arm across the body the head is easily lifted and slides into the glenoid cavity.—*E. T. T., British Med. Journal.*

ON SOME OF THE ABUSES OF THE JACKET TREATMENT OF SPINAL DISEASE. — The writer, while acknowledging fully the debt European surgery owes to Dr. Sayre for the able advocacy of his treatment, and granting that it is due to his exertions that in England it has come into such general use, considers that in many cases the jacket is hastily and needlessly applied, and that its employment is often actively harmful.

He divides the cases in which the jacket treatment is abused into two classes:

A. Those due to a wrong selection of cases.

B. Those due to wrong methods of application of the jacket.

In class A the following are given as improper instances:

1. *Simple Ricketty Spines*, often mistaken for cases of commencing caries.

2. *Cases of Simple Lateral Curvature*, in which the disease is perpetuated by the use of rigid support.

3. *Certain Cases of True Spinal Caries.* In infants during the early progress of the disease, the older plan of rest and horizontal position succeeds better than does any attempt to immobilize the spinal column, and is free from the risk of preventing due development of the trunk; but the jacket may be used from the first in older children, with or without confinement to bed.

4. Cases in which the lungs or heart are affected, in addition to the affection of the spine.

5. Cases in which the carious spine is associated with any high degree of paralysis, incontinence of urine, etc.

In class B the following are the chief instances of misapplication of jackets:

1. *Undue Heaviness*, many jackets, being far too thick and strong.

2. *Use of the Swing.*—This apparatus is considered to be, for children, useless, if not harmful, the object of extension being to allow the body to hang as straight as it may, while avoiding all risks of disturbing any adhesions between consolidating vertebræ, and to bring the chest-walls into a condition of extreme inspiration. It is held that these objects are best attained by holding the child by the arms, with the feet on the floor, or by the use of an inclined plane.

3. *Bad Fitting and Bad Shaping of the Jacket.* More especially neglect of the inspiratory position of chest-walls, insufficient hold of the jacket on the pelvis, and inaccurate fitting to the spinal curve or angle.—Walter Pye, F.R.S., *American Journal of Obstetrics.*

NERVE SUTURE.—In forty-three reported cases of suturing divided nerves, Wolberg found twelve in which the restoration of function could be explained only on the hypothesis of union by first intention. The results of the experiments conducted by the author led to the following conclusions: 1. Primary union of nerves is possible. 2. The ends of a divided nerve should be sutured together in all recent cases; the operation should be undertaken in old cases only when called for by the importance of the paralyzed functions, and when all other methods of treatment have proved fruitless. 3. Direct are preferable to paraneurotic sutures, the former being not only free from danger and as easily executed as the latter, but also affording more accurate coaptation. (Filkenheim recommends paraneurotic sutures whenever these suffice to bring the divided ends in perfect apposition, *vide Medical Record*, Vol. xx., No. 20, p. 545). 4. Even when primary union is not obtained, the process of regeneration is hastened by suture.—*Centralblatt für Chirurgie.*

VOLKMANN'S OPERATION FOR HYDROCELE.—Five successful cases of this operation are recorded by Dr. Wm. Gardner, (*Australian Medical Journal.*) In all of them the incision was made the whole length of the scrotum, through the skin, subcutaneous tissue, and fasciæ, down to the tunica vaginalis, which was then divided with probe-pointed scissors to the full extent of the external incision. The tunica vaginalis was stitched to the skin by an interrupted suture, a drainage-tube inserted, and the whole brought together by deep sutures. Antiseptic treatment was adopted. Dr. Gardner urges the following advantages for this operation: 1. The absolute certainty of a cure within a fortnight. 2. The smallness of the risk. 3. Its extreme simplicity. 4. The fact that it has never been followed with orchitis, as injection of iodine has been. 5. The fact that "diagnosis is made easy in doubtful cases, and a tumor of the testicle, of which the hydrocele is a symptom, may be thus examined, and perhaps, in some cases, treated by immediate removal or, in others, by incision."—*Glasgow Medical Journal*, December.

IODOFORM IN THE TREATMENT OF DISEASES OF THE SKIN.—Mr. Frazer has obtained very favorable results from the use of iodoform in various diseases of the skin. It may be readily employed in the form of an ointment of any required strength, mixed either with lard or vaseline. The strength of the ointment made use of has ranged usually from ten to thirty grains of iodoform to the ounce of cerate, but double this quantity can be applied. It has proved a most useful remedy in healing local eczematous eruptions occurring in strumous children and young people, as well as in cases of impetigo. Mr. Frazer also directs attention to the properties it possesses in curing porrigo decalvans. The best results he has as yet attained have followed the application of vesicating collodion over the affected spot and for a short distance around it. Previous to this it is well to epilate all diseased hairs over the spot, and when the blister is healing the ointment of iodoform should be applied night and morning, or oftener; by this treatment the hair soon reappears in a healthy condition.—*Britith Medical Journal.*

TREATMENT OF STRICTURE BY STRETCHING, Reginald Harrison, F.R.C.S.—If we put aside cases of organic stricture of the urethra, which are remedied by the occasional passing of a bougie, there yet remain a certain proportion where such treatment is insufficient. To take for example: a patient having neglected the early indications of stricture, is seized with retention: with difficulty a small catheter is passed, and thus the urgency of his symptoms are met. It often happens that retention recurs, and all the difficulties attendant upon the first catheterism have to be gone over again, with, probably, considerably more spasm superadded. To meet such cases, immediately or remotely, a variety of expedients are practiced. Of these, I may mention continuous dilatation, or the tying of an instrument into the bladder; internal urethrotomy: perineal section; and rupture, as employed by Holt. All these have for their object the passing of a full-sized instrument into the bladder, without which none of them can be regarded as satisfactorily completed. For some time, I have occasionally been employing for this object a process which I think is best described under the term "stricture-stretching." Stricture-stretching, as I endeavor to carry it out, is very closely in imitation of the process to which gloves are submitted by the salesman after purchase has been made. The stretcher I employ is that much abused but valuable instrument, Holt's dilator; and the stretching is affected quite slowly, by the introduction of successive sizes of dilating rods, until the dimensions required are obtained. I almost invariably have the patient under ether, as it is important that the process should be slow enough to permit of the tissues stretching without tearing. I do not think we fully recognize the extent to which the urethra is capable of being distended. In reference to the use of the instrument: The patient being placed under ether, in the recumbent position, the dilator, with or without the pilot bougie, is passed fairly into the bladder, and then the rods are slowly and gradually introduced until a full size is obtained. The process generally occupies from 10 to 30 minutes, according to the resistance, care being taken not to tear, and so cause hæmorrhage. I then withdraw the dilator, and pass a catheter, for the purpose of removing any urine that is there. I usually give a dose of Fleming's tincture of aconite immediately after the stretching has been practiced, and require the patient to remain in the house for 24 hours. A full-sized bougie is then passed every third or fourth day until the patient has learnt how to conduct this operation himself, when he must be enjoined to continue this practice. It will be seen that this proceeding differs essentially from what is so well known as Holt's operation. In the one, the object to be attained is stretching; whilst, in the latter, it is rupture. It is the only plan of treatment by which the strictured urethra is at once brought up to a full capacity, without break of tissue.—*British Medical Journal*, December 10th.

PARACENTESIS OF THE PERICARDIUM.—According to Severi, paracentesis of the pericardium is indicated in simple or rheumatic effusions, seven out of ten operations resulting favorably. When the life of a patient is endangered by the presence of fluid, this operation should be performed, although the pericarditis may be tubercular, associated with chronic pulmonary affections, or with some bloody effusion. Operative interference is emphatically indicated when there is pus in the sac. Pericardial paracentesis is a measure of some gravity, but many of the accidents formerly experienced by physicians are now avoided through the introduction of improved instruments and better methods of operating. Though a palliative measure, which may have to be performed several times, it leads in some instances, to a radical cure.—*La Sperimentale.*

EXTIRPATION OF THE KIDNEY.—Dr. Le Dentu related to the Académie de Médicine (*Union Med.*) the case of a gentleman aged thirty-two, who applied to him in March, 1875, with a fluctuating tumor in the left flank and iliac fossa, arising from hydronephrosis and perinephritic abscess. The severe suffering of the patient led to the incision of the tumor, giving issue to a clear liquid mixed with blood. In a few days urine flowed abundantly by the wound; and as its issue caused frequent attacks of inflammation, which put the patient's life in danger, it was resolved to remove the kidney of that side. The operation was performed on April 4th, the decortication of the organ being easily effected. The upper two thirds of the kidney were converted into a sac with flaccid walls, the lower third remaining normal, and the hilus being voluminous. The kidney, being secured by means of two ligatures, was excised with the scissors. Lister's dressing was employed for some days, until the mortified parts had been eliminated by means of the ligatures and the thermo-cautery. The lumbar wound cicatrized in the course of two months. The fistulous track remained open, but now yields a few drops only of purulent serosity. The patient, who is a distinguished dramatic artist, made a brilliant appearance on the stage in October. This is the first example of successful nephrectomy in France.—*Medical Times and Gazette.*

GASTROSTOMY FOR CANCER.—Gastrostomy has become a recognized operation in surgery, and cases have frequently been recorded in the pages of this journal. Its history has been dwelt upon before, and need not be discussed anew. By far the largest quota of cases of gastrostomy is furnished by cancer of the œsophagus, and the question may naturally be raised as to its suitability and results in that disease now that so much experience has been gained. The statistics of such cases are certainly not encouraging, the mortality that has ensued within a week of the operation being very large. It is important, however—and this is a point that is sometimes overlooked—to determine what share in this mortality is to be attributed to the operation itself and what to the disease it is intended to palliate. Undoubtedly peritonitis has been the cause of many deaths, particularly in the earlier cases—a peritonitis directly or indirectly due to the operation, and favored perhaps by the lowered vitality of the subject. But peritonitis is being fast eliminated from abdominal surgery, owing to the enforcement of special precautions; and as regards this particular operation the modifications that have been introduced, notably by Mr. Howse, have been successfully directed against the accidents likely to occur. Such modifications require time—the lapse of some days between the preliminary attempt to unite the stomach to the parietes and the opening of the viscus; and time in some of these cases *is* a consideration, so that the risk of peritonitis has to be run in the attempt to avert death from starvation. As it has been pointed out, surgical intervention comes at so late a stage of the disease and when the patient is so much reduced that his days are literally numbered.

The table furnished by Mr. Golding Bird illustrated this, for it pointed to the fact that the duration of life after gastrostomy was inversely proportional to the duration of the dysphagia—or, in other words, to the advance made by the disease to more or less complete closure of the gullet. In the presence of such cases the physician may well hesitate to urge and the surgeon to act, knowing that the time for relief is well nigh passed; but one cannot reasonably deny them the right to counsel or perform the operation. There is at least a *chance* of prolonging a life, of restoring for a short time some vitality to the exhausted frame, and it is wrong to withhold any measure which offers a probability of such relief, however remote. True, it subjects the patient to the additional risk of peritonitis, but, as just said, modern surgery regards peritonitis almost as a reproach on its efficiency, and it is a risk which must not be allowed to turn the scale against the justifiability of operations of this class. Had the dread of peritonitis been suffered to deter surgeons ovariotomy would never have been established, and abdominal section never have been entertained. In many points indeed gastrostomy in desperate cases stands on the same footing as abdominal section in intestinal obstruction. In each case the surgeon does his work in the hope of prolonging a life, in the latter case perhaps of saving it; and if abdominal section has any greater justification than gastrostomy it is solely because the issue at stake is greater.—*London Lancet.*

OBSTETRICS.

CAPSICUM IN UTERINE HEMORRHAGES.—Dr. J. Chenon (*Le Progrès Médicale*) says: From a large number of physiological experiments I concluded that capsicum is a vascular remedy, acting especially on organs whose circulation is singularly active, such as the utero-ovarian, respiratory and encephalic. Cayenne pepper acts like ergot of rye on the smooth fibre of the vascular coats, either directly or through the vaso-motors. But it presents a great advantage over ergot, in that it is well borne by the stomach, whose functions it simply stimulates. I have used it for several years in uterine hemorrhages with the best success, whether these hemorrhages were due to fibroid tumors, fungous endometritis, or even to epithelioma. The formulæ at which I have arrived are as follows:

℞. Powdered capsicum, 5 grammes. Make thirty pills. One before each meal, increasing to six pills a day.

℞. Aqueous extract of capsicum, 5 grammes. Make thirty pills. To be given in the same dose as No. 1.

℞. Tincture of capsicum, 5 grammes; rum, 30 grammes; gum julep, 120 grammes. Take by spoonfuls every two hours.

I have also successfully used capsicum in congestive headaches so common in the gouty, and in the hæmoptysis of tuberculous patients.

TREATMENT OF VULVULAR PRURITUS.—M. Bernier (*Journal Med. et de Chir. Pratiques*) after trying all forms of application in a case, found that most benefit was obtained from the following unguent:

℞. Ung. diachylon simpl. (Fr. cod.), ol. olivæ, āā equal parts. M.

On the other hand, M. Delaporte, recommends, in the same puriginous affections, the following lotion:—℞. Sodæ carbolat., ʒss.; aquæ colon., ℥iiss.; glycerinæ, ℥iiiss.; aquæ, ℥x. M.

Lotions with this wash should be made whenever irritation is intense, and particularly at bedtime. The liquid should be applied cold, with a fine sponge.—*Medical Digest.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, January 28th, 1882.

The Week.

ACADEMY OF MEDICINE.—The next meeting, Monday, 30th inst., being designated for the reports of cases. Among others Dr. Cleveland will report two cases of "Laryngeal Diphtheria" and Dr. Ransohoff one of "Chancre of the Lip."

WM. T. BROWN, M.D.

DIED, in this city, January 26th, Wm. T. Brown, M.D. As we go to press this sad announcement comes in. Dr. Brown was one of our best known and highly respected physicians. In all his intercourse with his brethren in the profession he was the soul of honor and uprightness. His attainments as a physician were of a very high order and his appreciation by the laity was attested by one of the largest clienteles ever held by a practitioner in this city. Sadly he will be missed and mourned in his family, in the church, and in social and professional circles. In all respects Dr. William T. Brown was a square, honorable and upright man—never afraid to do right or condemn a wrong—warm hearted, generous and truest of friends, stricken down in the midst of his usefulness and in the prime of manhood, we mourn his death.

Miscellany and News.

A HANDSOME DONATION.

WHEREAS, Dr. G. S. B. Hempstead, a member of the Scioto County Medical Society, and for more than sixty years a successful practitioner of medicine in the city of Portsmouth, has generously donated his large, valuable, and carefully selected medical library to this Society, upon specified conditions—and

WHEREAS, At the last meeting of the Society a committee was appointed to draft resolutions expressive of our appreciation of this gift, Therefore

Resolved, That we will preserve, appreciate, and utilize the gift both on account of its inherent worth, and as a fit memorial of the moral worth, high professional character and profound attainments of the venerable donor,

Resolved—that these resolutions be enterd upon the records of the Scioto County Medical Society, and copies thereof presented to the secular, and medical press for publication.

J. P. BING, M.D.,
P. J. KLINE, M.D,, } Committee.
S. S. HALDERMAN, M.D.,

THE PHYSIC OF OUR FOREFATHERS.—The Virginia (Nev.) *Enterprise* says: W. A. Perkins, druggist, of this city, has a curious old book, published in London in 1657. It is entitled "The Expert Doctor's Dispensary; or, The Whole Art of Physik Reduced to Practice," with the following sub-title: "The Apothecaries' Shop and Chyrurgions' Closet Opened." Following are some few of the more agreeable among the many agreeable remedies with which our forefathers were dosed: "The fat of a cat; a plaster of mashed frogs; brain of a hare roasted; fat of serpents; the fat of men, foxes, vipers, and dogs; oil of vipers; grease of a mummy; ashes of a man's skull, ashes of glass, of earthworms, of an ass' liver, hedgehog, scorpion blood, cheese mites, wood lice, beetles, warts of a horse's hoof, pike jaws, craw fish, the stoppings of a snail's shell in Winter, crab's eyes, king fishers; stones from an ox gall; blood of a goat in wine; turtle dove roasted with its belly filled with cinnamon; man's skull powdered and stewed in the milk of a sow; spider's web, 'especially if it be such as is full of fine flower of mills and bake houses;' clots of blood 'dryed;' haire of horses and men burnt; burnt sponge; soot scraped from the mouth of an oven or off a brasse pot; oyle of frogs." The "oyle" of frogs is recommended to those who are troubled with sleeplessness. It is said to operate "by sending mild vapors up to the head, to temper the hot, dry and sharp fumes that are in the brain." We all know—who have ever handled frogs—that they are cool to the touch.

For taking away scars are recommended "fats and marrows of men, asses, harts, and the fat of the fish thymallus."

For wounds, "crawfish, mummy, and crab's eyes" are recommended; also, "earth worms and hare's hair burned."

"Extractors" for "drawing out splinters and other things fastened in wounds," we are told there is nothing like "land snails beaten with their shells, the head of a lizard powdered, or a fox tongue prepared as its lungs are moistened with red wine." Loadstone "draws forth iron, and amber draws straws."

For a "moderate" emetic "the shaving of one's own nails drunk in wine" are recommended. *Gaillard's Journal.*

"LISTERISM." — The bacterial hallucination sometime presents amusing phases. Not long ago a rigid apostle of Listerism made an amputatian at the hip. The dressing was applied over the same regions as the gauze of a ballet-dancer. Whenever the patient desired to evacuate his bladder (fortunately it was a "he") the house-surgeon or dresser was summoned; the spray was directed so as to shower the patient's torrid zone; the dressing was carefully loosened, the necessary organ was fished up out of the depths and directed over a vessel, and then the gentle gurgle of the escaping renal secretion mingled sweetly with the mummered admiration of the bystanders, the fizz of the faithful spray, and (presumably) the teeth-gnashing of baffled bacteria. Needless to say the patient died.—W. T. Belfield in London Letter to *Chicago Medical Examiner.*

OLIVER WENDELL HOLMES ON HOMEOPATHY. I would extend the hospitality of these shelves to a class of works which we are in the habit of considering as being outside of the pale of medical science properly so-called, and sometimes of coupling with a disrespectful name. Such has always been my own practice. I would give Samuel Hahnemann a place by the side of Samuel Thomson. Am I not afraid that some student of imaginative turn and not provided with the needful cerebral strainers, without which all the refuse of gimcrack intelligence gets into the mental drains and chokes them up—am I not afraid that some such student will get hold of the "Organon" or the "Maladies Chroniques" and be won over by their delusions, and so be lost to those that love him as a man of common sense and a brother in their high calling? Not in the least. If he showed any symptoms of infection I would for once have recourse to the principle of *similia similibus.* To cure him of Hahnemann I would prescribe my favorite homeopathic antidote, Okie's Bonninghausen. If that failed I would order Grauvogl as a heroic remedy, and if he survived that uncured I would give him my blessing, if I thought him honest, and bid him depart in peace. For me he is no longer an individual. He belongs to a class of minds which we are bound to be patient with if their Maker sees fit to indulge them with existence. We must accept the conjuring ultra ritualist, the dreamy second-adventist, the erratic spiritualist, the fantastic homeopathist, as not unworthy of philosophic study—not more unworthy of it than the squarers of the circle and the inventors of perpetual motion, and the other whimsical visionaries to whom De Morgan has devoted his most instructive and entertaining "Budget of Paradoxes." I hope therefore that our library will admit the works of the so-called eclectics, of the Thomsonians, if any are in existence, of the clairvoyants, if they have a literature, and especially of the homeopathists. This country seems to be the place for such a collection, which will by and by be curious and of more value than at present; for homeopathy seems to be following the pathological law of erysipelas—fading out where it originated as it spreads to new regions.—Address in *Boston Medical Journal.*

MICROMETRIC RESEARCHES ON CONTRACTED MUSCLE.—In a memoir recently published in Pflüger's *Archiv*, M. Engelmann gives the results of his investigations on the relative thickness of the isotropal and anisotropal layers of muscular tissue in the contracted and in the uncontracted state. He selects the muscles of insects, and fixes them in different grades of contraction by the action of alcohol, osmic or salicylic acids. He finds that in contraction the volume of the isotropal layer diminishes, whilst the anisotropal augments continuously. When at rest the thickness of the isotropal layer is to the anisotropal as 5 to 4, but in contraction the anisotropal layer becomes twice as great as the isotropal, and the increase appears to correspond to the degree of shortening. Englemann regards the essence of muscular contraction to consist in a process of imbibition, in which the so-called "secondary" or "accessory discs" give up the water which is requisite for the swelling of the anisotropal discs. —*London Lancet.*

HÆMATOLOGY.—Some facts recently published by Bizzozero and Salvioli on blood-formation deserve notice. The have endeavored to stimulate the hæmatogenic function of the spleen by copious venesection, and succeeded in the case of dogs and guinea-pigs, but failed in that of rabbits. This variation in the result, when different animals are employed, explains the failure of the method in the hands of Neumann and Freyer. The spleen of animals thus treated is swollen, soft, light red in color, and presents, on microscopical examination, the early forms of red corpuscles, which are seen also in the spleen of embryos—cells with large nuclei, and colored protoplasm, with various intermediate forms between these and perfect red corpuscles. In the blood of the splenic vein there were constantly found large pale-red blood-corpuscles, and the nucleated forms were also met with in the course of the circulation. Tested by color standards, the blood of the splenic vein showed more hæmoglobin than that of the splenic artery, and, on numeration, it was found to contain a large excess of white blood-corpuscles, which were increased absolutely, as well as in proportion to the red. The experimenters therefore conclude, in opposition to Neumann and Freyer, that both red and white corpuscles are formed in the spleen. In some animals, after venesection, the hæmoglobin returned to the normal almost as quickly if the spleen had been previously excised as under normal conditions. The explanation of this is uncertain. In another investigation they endeavored to ascertain the course of the changes in the hæmoglobin after loss of blood. The fall in color progressed, sometimes for a few hours only, sometimes for two days, and then gradually returned to the normal. For each amount of blood corresponded to 1 per cent. of the body weight of the animal, the hæmoglobin fell 11·14 per cent. of the original quantity. They account for the fall in tint, as other authors have done, by assuming a movement of plasmatic fluid from the tissues into the bloodvessels to raise the lessened volume of the blood up to the normal.—*London Lancet.*

TRAINING PEOPLE TO MEET MEDICAL OR SURGICAL EMERGENCIES.—The State Charities Aid Association proposes to establish a kind of ambulance school for the instruction of police and firemen, general workmen and railroad employés, and the employés of all public institutions and others who may wish it, how to meet emergencies. The plan is modeled after that of a London society, which has been able to drill many thousands, so that they are now able to supply the place of the physician or surgeon until that important functionary can be summoned and arrive. Lectures will be given weekly. After the lectures examinations will take place, and certificates will be given to such as show themselves possessed of the knowledge that will fit them for this laudable work. In addition to these lectures it is also purposed to give lectures touching important matters relative to maternal duties and home hygiene to women.—*N. Y. Med. Record.*

ABSINTHE.—The consumption of this seductive and health-destroying liquor appears to be on the increase.... Absinthe is a yellowish-green liquor which cantains as a peculiar ingredient a poisonous oil having a deleterious effect on the nervous system. The oil is called wormwood oil, and is produced in nature by the *Artemisia absinthium.* Other flavoring oils are always added, such as peppermint, angelica, cloves, cinnamon, and aniseed. The color is produced by the juice of nettles, spinach, or parsley, or, in other words, is due to the common green "chlorophyll" found in all green plants. Most samples of absinthe contain sugar. The average composition of absinthe is as follows: absolute alcohol, in 100 parts, 50.00; oil of wormwood, .33; other essential oils, 2.52; sugar, 1.50; chlorophyll, traces; water, 45.65. Alcohol causes drunken sleep; alcohol and absinthe combined produce convulsions. The poor wretches given up to absinthe-drinking suffer from a peculiar train of nervous symptoms, the most prominent of which is epilepsy of a remarkably severe character, terminating in softening of the brain and death. The last moments of the absinthe-drinker are often truly horrible. M. Voisin records a case in which a man was picked up in a public street in an epileptic fit. He was known to be a large consumer of absinthe. The convulsions lasted until death,—four days and four nights. During the last five or six hours of life the skin of the face became almost black.—*British Med. Journal.*

A PHYSICIAN of the highest order is the man who is great in emergencies, who is keen in discernment, cool in judgment, sagacious in expedients, assuring in demeanor, kind in counsel. The great physician is one who relies but little upon medicines, little upon dosing, little upon specifics. He realizes that if a cure comes, nature, in nine cases out of ten, must have the credit. He does not forget, however, that in certain cases remedies used at the right time may be of great service in assisting nature. The safe physician must of necessity be a great man; in fact, the greatest of men among those engaged in the active duties of life. No ordinary man can be a great or safe doctor. A man who is not *great*, who has not peculiar qualifications, is not, as a rule, a safe man to have charge of the sick. —*Gaillard's Medical Journal.*

THE medical world of Paris is somewhat startled by the report—which, unlike most reports, is authentic—that the Minister of the Interior will shortly publish a decree, according to lady medical students the right to compete for the house-surgeonships, hitherto denied to them. The agitation, as is natural, is most marked among the class directly interested, the house-surgeons. Their concord is not on purely scientific grounds; it is not fear that the medical reputation of their order is in jeopardy. It has another source, which may be described as domestic. What will become of the salle de garde (the dining room and place of reunion)? "Nous ne serons plus chez nous" (we shall no longer have our house to ourselves)! is the cry. Perhaps M. Quenten, the energetic and amiable head of the Assistance Publique, may solve the difficulty and make life easy to both lady and gentleman house-surgeons by giving them separate salles de garde.—*British Med. Journal.*

FOREIGN BODIES IN BLADDER.—A published list of foreign bodies introduced into the bladder (of both sexes) includes the following: 78 portions of catheters and lithotrites, 82 needles, pins, or tags, 7 bone or ivory needles, 6 ear-picks, 3 ivory whistles, 1 ivory spindle, 1 ivory stilletto handle, 15 leaden balls, 3 small keys, 8 metallic fragments of various kinds, 12 bones or splinters of bone, 12 pieces of pebble or china, 6 penholders, 15 needle-cases, 12 pieces of tobacco pipes, 4 pieces of glass tubing, etc.—*Maryland Med. Journal.*

“ Malt Extract has almost entirely taken the place of Cod Liver Oil in the treatment of Phthisis, and other wasting diseases, at the Basle Hospital.”—*Ziemssen's Cyclopedia, Vol. XVI, p.* 474.

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“I have tried Trommer's Extract of Malt, and can recommend it as the best I have ever used.”—*H. Lœwenstein, M. D., Brooklyn, N. Y.*

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“Have used it in weak digestion, debility, and in chest cases (combined with cod-liver oil), and have uniformly found it particularly valuable.”—*C. S. Parke, M.D., Quebec.*

“Find an increasing use of this remedy in my practice, and should not know how to get along without it.”—*E. S. Dunster, Prof. Obstetrics and Diseases of Women, Univ. of Michigan, Ann Arbor, Michigan.*

“I look upon this remedy as the most valuable aid we possess in all cases where debility, impaired digestion and malnutrition obtain.”—*J. B. McConnel, M.D., Prof. Chemistry, etc., Univ. Bishop's College, Montreal.*

“I have given these preparations to over three hundred patients during the past year, and have yet to see a single case in which benefit has not accrued from their use. It may be said that the medicines contained in some of the preparations should have the credit, but I have been careful to use such preparations in cases where the medicinal agents therein contained have before been given with little or no advantage. In tuberculosis and scrofulosis I have found Malt Extract to improve nutrition and arrest the progress of the disease, acting similarly to cod-liver oil, save that its effects are more decided.”—*John A. Larrabee, Professor of Materia Medica and Therapeutics, etc., Hospital College of Medicine, Louisville, Ky.*

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DOSE.—One or two teaspoonfuls *three* or *more* times a day, as indicated.

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After giving "CELERINA" a *fair trial*, I have found, that, as a Nerve-Tonic and Vital Reconstructor, it *is what it claims to be.*
L. CH. BOISLINIERE, M.D., LL.D.
(*Professor of Obstetrics and Diseases of Women, St. Louis Medical College.*)

I have given "CELERINA" a fair test in two cases of debility, *resulting from sexual excess*, and am *much pleased* with its action. In one of the cases, the Dyspepsia, which was a prominent complication, *was also cured by its use.*
W. R. S. CONNELL, M.D.
(*Professor of Principles and Practice of Medicine, Joplin* (*Mo.*) *College of Physicians and Surgeons.*)

I have obtained *the most satisfactory* results from the use of "CELERINA" in my practice. *I have never prescribed a preparation to which I am more indebted.*
R. DARRINGTON, M.D., Kingston, Miss.

I have prescribed "CELERINA" in cases of *weak, tired and nervous men and women, with satisfaction.* It is a *powerful* and *refreshing tonic, lasting in its effects.*
GEO. C. PITZER, M.D.
(*Professor of Practice of Medicine, American Med. College, St. Louis.*)

I have used "CELERINA" in a great many neuralgic cases with satisfactory results.
N. G. SMITH, M.D.
(*President E. Ind. E. M. Ass'n, Lewisville, Ind.*)

I have used "CELERINA" in two cases of mental depression caused by sexual exhaustion, and have found the results *very satisfactory.* I can give the *same favorable report* in two cases of "Opium Habit."
CHAS. ZOLLER, M.D., Litchfield, Ill.

I have used "CELERINA" in a case of general debility, caused by sexual excess, and the patient has greatly improved under its use.
N. S. READ, M.D., Chandlerville, Ill.

I have *fully tested* the merits of "CELERINA," having used some 36 bottles in my practice in cases of Nervous Prostration and General Debility. *It has met every indication of a nerve-tonic.* I must say I am *highly pleased* with it.
C. H. MULLEN, M.D., Chief, Tenn.

I can bear *favorable testimony to the value* of "CELERINA" in nervous affections.
CHAS. A. WARE, M.D., 219 N. 14th Street, St. Louis.

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SMALLPOX.

HISTORICAL NOTES ON THE EPIDEMICS OF 1879, 1880 AND 1881.

BY THOMAS C. MINOR, M.D., Cincinnati, O.

"*Lucem vero effundit medico in cognoscendo malum epidemicum et curando.*"

"*Si l'on vut porter la medicine au degré de perfection dont elle est susceptible, il faut suivre l'example des astronomes qui par l'exacte comparaison des observations qui ont ete faites en differens temps sur le mouvement des astres, sont parvenus a determiner leur cours et leurs diverse positions respectives, meme cent ans a l'arance.*"

SYNONYMS.—Jadari (*Arabian*), Anthrax (*Greek*), Smallpox (*English*), Petite Verole or Variole (*French*), Blattern, Pocken, or Kind Pocken, Menschen Blattern (*German*), Variolo or Vajuolo (*Italian*), Viruela or Viruelæ (*Spanish*), Corales or Variæ (*Sixth Century*), Variola (*Modern Latin*.

HISTORICAL.

RHAZES,[1] the most ancient classical author on the subject of smallpox, writing about A.D. 850, states that the disease received mention in the works of Galen. This statement has been doubted by the majority of epidemiologists, but as Rhazes quotes his authority there should be no reason for such unbelief. Rhazes remarks "If, however, any one says that Galen has not mentioned any peculiar and satisfactory mode of treatment for this disease, nor any complete cause he is certainly correct; for, unless he has done so in some of his works which have not been published in Arabic, he has made no further mention of it than what we have just cited. As for my own part, I have most carefully inquired of those who use both the Syriac and Greek languages, and have asked them about the matter; but there is not one of them who could add anything to what I have mentioned; and indeed most of them did not know what he meant by those passages which I have distinctly quoted. This I was much surprised at, and also how it was that Galen passed over this disease which occurs so frequently and requires such careful treatment, when he is so eager in finding out the causes and treatment of other maladies."[1]

Rufus of Ephesus and Herodotus who lived in first century after Christ, speak of an epidemic disease which, judging from its symptoms, was undoubtedly smallpox. Although those epidemiologists who differ with Rhazes as to the earliest mention of the disease insist that the malady then known as *anthrax* was not *smallpox* but the *bubonic plague*. One fact will be agreed upon by all epidemiologists, however, *i.e.*, that before the Christian Era the Romans knew nothing about the disease and that all Grecian references prior to that time are exceedingly unsatisfactory and vague. It is possible that future investigations of Egyptian mummies and papyri may throw more light on the earliest origin of the disease.

According to Ozanam,[2] it was first carried from Ethiopia into Arabia about the time of the birth of Mahomet. The Moors importing it into Spain. Marius, Bishop of Helvetia, in his "Chronicles," is the first writer who speaks of the appearance of smallpox in France and Italy, in 570 (A.D.) "*Hoc anno,*" says he, "*morbus validus cum profluvio ventris, et variola Italiam, Galliamque valde affixit.* This was followed in 571 by the Plague.

The Historian Gregory of Tours (*Histor. Francor.*, lib. v.) is the second writer who speaks of this disease in France in 580 A.D. and also in 582. Of the latter epidemic he remarks "It prevailed among the people as a pestilence and was a mixture of several diseases: *valetudines variæ, malignæ cum pustulis et vesicis.*" He also says, "About this time, Dagobert and Clodobert, sons of Chilperic and Fredegonde, died. Austregilde, surnamed Bobile, wife of Goutrand, King of Burgundy, was also attacked and finding she was about to die concluded that her two physicians, Nicholas and Donat should accompany her, remarking that she might still have hopes of living but for her doctors, who had shortened her days by medicine, and she wished after her last breath was drawn that their heads might be cut off (*gladio trucidentur.*) The King afterwards carried out this barbarous order.

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[1] Treatise on Smallpox and Measles. By Abu. Becr Mohammed Ibn Zacariya (Rhazes). Translated from the Arabic. By William Alexander Greenhill, M.D. London, 1848.

1. Epidemiologists who deny that Galen knew anything about smallpox, claim that Rhazes was mislead by the faulty translations of Galen's work, which was rendered into Arabic in the early part of the IX Century by Honain Ibn Ishak. In the translation of the Greek name for *acne* the Arabic word *jadari*, meaning smallpox, was used, thus misleading Rhazes. In other words that which Galen knew as *acne indurata* was construed by Rhazes to mean *variola*.

2 Histoire Medicale des Maladies Epidemiqes, Contagieuses and Epizootiques. Lyons, 1835.

The epidemic tendency of smallpox subsided for a number of years, until towards 742 the Saracens invading Spain reintroduced the malady into Europe. It was about this epoch that the Arabic physicians commenced to treat of the disease, and in the 9th Century, the Calif Almalon Abdalka had all the Greek works in Spain translated into Arabic. Rhazes wrote his monograph about this time, having been preceded by Aaron the Egyptian. In the 10th century Avicenna also wrote a work on smallpox. At this time the disease was widely spread over meridional Europe; and, Faucbet in his *Antiquites Francoises*, liv. xii., states that Baudoin, Count of Flanders, died of the disease in 962. Constantine travelled through Arabia in the XI Century in order to study smallpox, and was the first Latin physician who called the disease *variola*, and the measles *morbillus*. The Crusaders brought back smallpox with them from the Holy Land. In the north of Europe the disease was unknown as late as the 12th century. In the XIV century the disease was generally known as *variola*. In the XV century the whole of Europe was infected by it, except Russia, Lapland, Iceland and Greenland. It was also very common throughout continental Asia. America, at the time of its first discovery, 1492, had no knowledge of the malady, but it was shortly afterwards introduced by the Spanish. In 1700 the disease invaded Norway and Sweden and later, in 1733, it was carried to Greenland by a Greenlander who had just returned from Denmark."

Since the discovery of the prophylactic power of vaccination by Jenner the pandemics of variola that once invaded the continent of Europe have disappeared, nevertheless, an epidemic tendency is occasionally manifest, the disease still being kept alive by those oriental races whose ignorance of all sanitary law entails a compensating punishment. The pernicious custom of inoculation which prevails in some portions of Asia, notably in China, is also largely responsible for making the disease endemic to certain portions of the globe. In those countries where compulsory vaccination laws exist smallpox is always promptly stamped out or at least to a large extent controlled. In the German Empire and Great Britain this fact may be fully evidenced by a study of the current vital statistics. London and Berlin often report deaths from smallpox but their proportional mortality rate from this cause bears no comparison to those of Philadelphia, Chicago, Cincinnati, and even smaller American cities. In Boston, New York, and Baltimore where sanitary departments have almost unlimited power the death rate from variola has, for a number of years, been comparatively low, this too notwithstanding the fact that all three of these cities are Ports where immigrants from all portions of the world are contantly entering, bringing with them smallpox, yellow fever and other diseases subject to epidemic evolutions.

In the arrangement and collation of statistics regarding a wide spread epidemic tendency noticed at home and abroad during the years 1879, 1880, 1881, the writers motive has been to fix in the shape of *permanent notes* all facts bearing directly or indirectly on the present outbreak in hopes that the future American epidemiologist may have a certain amount of available material at hand. Well aware that masses of figures have few charms for the majority of medical readers, yet trusting that the motive inspiring this collection of notes shall serve as an apology for their publication, they are respectfully submitted without further comment:

1879.

In June, 1879, deaths from smallpox were reported in London, Dublin, Paris, Vienna, Moscow, Rio Janeiro, Para, Callao,[1] China,[2] Japan, Java.[3] Bombay, Mexico,[4] Canada,[5] and Texas.[6]

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[1] Callao, Peru, experienced a sub-epidemic early in the month.

[2] In China inoculation is still largely practiced during the spring months and the disease is always present at Pekin, Ningpo and other large cities owing to this custom. In Japan compulsory vaccination is enforced by the Government, but the smallpox is sometimes introduced by infected ships from China. The Japanese Government owns a vaccine farm, yet the disease became epidemic in the years 1870-71 and 1875.

[3] In Java smallpox is always present in the smaller villages among the natives, occasionally it spreads to the larger towns and becomes a sub-epidemic. Batavia has suffered in this way.

[4] Smallpox is a common disease in Mexico and was very prevalent in 1878. It is continually imported into Vera Cruz on ships from Cuba.

[5] Canadian towns in the neighborhood of Montreal had reported cases of the disease and a sub-epidemic was present in the city named.

[6] San Antonio, Texas, imported the disease from Mexico. From June 1st to August 31st, 1879, 351 cases and 71 deaths were reported.

For the week ending July 5th, 1879, seventeen deaths from smallpox were reported in Great Britain. Six of these deaths occurred in Dublin and eleven in London. Smallpox was present in Paris and Vienna during the same period, but not a single death was reported in the German Empire. During the same month deaths were reported in Turin, Naples, Moscow and Montreal. During the week ending August 2d, 1879, a death from smallpox was reported in New York City, and the following week another death from the same cause. For the week ending August 16th two more deaths were reported in New York. The presence of smallpox in the largest of American cities was freely commented on at this time by physicians interested in sanitary medicine. Deaths from smallpox were reported in New York every week in the month of August, and on the last week of the month two deaths were recorded at Wilmington, Delaware. In August the disease was present in Naples, Trieste, Turin, Vienna, Havana, London, Warsaw, Toulon, Nice and Paris, no marked epidemic tendency however being observed. The disease was prevailing as a sub-epidemic at Matanzas, Cuba, Marseilles, France, and Montreal, Canada, the latter city reporting 38 deaths for the month. At Valparaiso, Chili, and Callao, Peru, the disease was epidemic; 156 deaths being reported in the former city for the month ending September 1st.

In September no deaths were reported in New York and the United States seemed to be entirely free from the disease. At Montreal, Canada, the malady appeared to be more prevalent, 88 deaths were recorded; a large and marked increase over the previous month. During the same month it prevailed as a sub-epidemic at Guayaquil, Ecquador; Paris, London, Buda Pesth, and Antwerp, Belgium. The disease was epidemic at Para, Brazil, 133 deaths being recorded; at Callao, Peru; and Valparaiso, Chili; there being 399 deaths in the latter city for the month ending October 1st.

During the month of October the disease made its appearance at Bellows Falls, Windham County, Vermont, having been imported from Montreal; and at San Antonia, Texas, from a fresh Mexican importation. With the exception of these two points the United States appeared to be entirely free from the disease. Deaths were also reported in New Brunswick, Canada, Havana, Cuba, Brussels, Dresden, Bucharest, Antwerp, Buda Pesth, Malaga, London and Paris, the disease becoming more prevalent in the latter city. During the same month it was epidemic at Pernambuco, Brazil, and at Callao, Peru; 162 deaths being reported at the latter city for the month ending November 1st.

In its issue of November 9, 1879, the Bulletin of the National Board of Health indulges in the following editorial language: "The mortality tables of the Bulletin have for many weeks presented the interesting fact that in more than one hundred of the largest cities of the United States, containing an aggregate population of over 8,000,000, not a death of a citizen from smallpox has been reported. This is one of the diseases that cannot escape detection and correct diagnosis where it proves fatal. A reference to the tables of mortality in foreign cities, compiled from weekly consular reports, which are now made with great care and accuracy, shows that smallpox is prevailing in various parts of the world and in certain places with great severity. This is especially the case in some Canadian towns in dangerous proximity to and in immediate communication with the United States."

The Bulletin then warns the people of the country to be on their guard and to anticipate the possibility of an outbreak by promptly resorting to vaccination.

On the following week a death from smallpox was reported in New York and also one death for the week ending Nov. 15th. During the same month the disease was reported at Laredo near Fort McIntosh and also at Fort Brown, Texas. For the week ending November 29th, 1879, four deaths were reported at San Antonio. For the first time in over two years the disease appeared in Philadelphia. On November 28th the first case appeared in Washington City, the patient being a man who had been confined to bed in Providence Hospital for over six months. There is a mystery surrounding the origin of the disease in this case.[1]

During the month deaths were reported in Paris, London, Vienna, Antwerp and

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[1] The patient was in the last stages of consumption, but died from smallpox on December 6th, 1879 The second case in Washington was that of a colored boy who had been imprisoned in the United States Jail for eight months. There was no manifest connection between the first and second case. The jail was a new structure.

Nice, and smallpox was epidemic in Montreal, Pernambuco, Brazil; Tripoli, Barbary; Valparaiso, Chili; 678 deaths being recorded in the latter city for the month ending November 30th.

The December "Bulletin of the National Board of Health" again sounded a warning to the American people in the following language: "The attention of health officers and sanitarians is called to the appearance in the United States of smallpox and an evident tendency towards its outcropping in other cities than those in which it has already been noted. Since the 15th of November deaths from the disease have been reported in the cities of New York, Philadelphia, Washington and San Antonia. In Philadelphia, with its long immunity, extending over several years, and in the District of Columbia, there is enough evidence to show the tendency to spread, previously mentioned, from centres so far removed from each other as to preclude the idea of transmission by actual contact, as a search into the definite origin of the earliest reported cases have, as yet, failed to reveal any fact concerning either the mode of origin or transmission.

A communication from Dr. T. C. M.,[1] of Cincinnati, to the National Board of Health, invites the attention of those interested in the prevention of smallpox and other diseases to the importation[2] as well as the inter-state[3] shipment of rags as a carrier of this and other diseases."

For the week ending December 6th, 1879, one death occurred in Philadelphia, and one death in Washington.

For the week ending December 20th, four more deaths were recorded in Philadelphia.

For the week ending December 27th, 1879, one death was registered in Philadelphia, one death in Baltimore,[4] and one death in Chicago.

During the month of December the disease also appeared at New London, Connecticut, in the person of a sailor on a Baltimore vessel, who, however, hailed from the District of Columbia. Smallpox still continued to increase abroad, deaths being reported during the month in Paris, London, Vienna, Buda, Pesth, Warsaw, Naples, Venice, Batavia, Java; and Havana. The disease was epidemic in Barcelona, Spain; Pernambuco, Brazil; Bucharest, Roumania; and Montreal, Canada; the deaths in the latter city for the year ending December 31st, 1879, were 472.

During the year 1879, in Europe, Spain seems to have suffered the heaviest mortality from smallpox, 5,398 deaths being recorded. Austria appears to have been the next on the list, as 351 deaths were recorded in Vienna alone. In the United States, among the larger cities, New York reported 25 deaths. In China, Hong Kong reported a mortality of 96.

1880.

In January, 1880, smallpox appeared in Worcester, Massachusetts, and the following deaths were reported in the various cities and towns:

Week ending	Jan.	3,	Washington,	3	deaths.
"	"	"	Philadelphia,	3	"
"	"	10	"	1	"
"	"	"	Washington,	3	"
"	"	17	"	3	"
"	"	"	Philadelphia.	3	"
"	"	"	Kingstown, N.Y.	3	"
"	"	24	Worcester, Mass.,	5	"
"	"	"	Philadelphia,	4	"
"	"	"	Washington,	2	"
"	"	31	Worcester, Mass.	1	"
"	"	"	Philadelphia,	2	"
"	"	"	Washington,	2	"

During the month the disease prevailed extensively at Worcester, Mass.,[1] and Rio Grande city, Texas.[2] Smallpox was reported abroad during January in London,

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[1] The writer of the present paper, who at the period named was acting as Health Officer of Cincinnati, Ohio.

[2] It is a notorious fact that many of the old Turkish rugs sold in this country of late come from the plague-stricken districts of Asia, and at least one foreign consul asserts that they are in many instances derived from the sale of effects of persons dying from the bubonic pest.

[3] San Antonio, Texas, where smallpox had been prevailing for some time, annually ships over 44,000 pounds of rags to the paper mills of the Eastern and Western States.

[4] The first case reported in Baltimore was that of a man named Cordes. This patient was found in a line of ticket purchasers at an office of the Baltimore and Ohio Railroad. He was ill at the time, and was promptly isolated in a hospital. The second case was that of a man whom Cordes had stopped on the street and engaged in conversation. The next four cases were persons residing in a saloon in which Cordes had stopped in order to inquire the road to the depot. The next case was the proprietor of the saloon, who died. This same patient, Cordes, stopped, before entering Baltimore, at the house of Justice Pelert's, on the Frederick Road, four miles from the city, on Christmas Eve, December 25th. Four of the Pelert family, and several other persons stopping in the house, were afterwards attacked by the disease. (For an interesting description of the introduction of the disease into Washington and Baltimore, refer to Bulletin, N. B. H., of February 7th, 1880.)

[1] Imported into Worcester by an unvaccinated infant from Montreal, Canada, where smallpox was prevalent. The child died, and a public funeral was held, and 10 more deaths were reported in a few days.

[2] Imported from Camargo, Mexico, where the disease was epidemic.

Vienna, Venice, Antwerp and Havana. The disease appeared to be subsiding in Montreal, as only 33 deaths were reported. In Paris, France, Pernambuco, Brazil, and Valparaiso, Chili, the mortality from this cause was largely increased, while at Iquique, Peru,[1] 347 deaths were reported.

The disease almost disappeared during the month at Para, Brazil, and Callao, Peru.[2]

During the month of February the following deaths were reported in the United States:

Week ending	Feb.	7,	Worcester, Mass.	2	deaths.
"	"	"	Philadelphia	2	"
"	"	14,	Worcester	2	"
"	"	"	Philadelphia	3	"
"	"	"	Washington	2	"
"	"	21,	Worcester	2	"
"	"	"	Philadelphia	5	"
"	"	"	Washington	1	"
"	"	28,	Philadelphia	5	"
"	"	"	Washington	1	"

During this month deaths were registered at Antwerp, London, Liverpool, Berlin, Copenhagen, Lyons, Venice, Vienna, Dublin, and Japan.[3]

The deaths in Paris, France, sometimes numbered more than 100 a week during the month, and smallpox also prevailed extensively at Iquique, Peru; Bucharest, Roumania (where it was very malignant and fatal, those attacked usually dying on the third day), and at Valparaiso, Chili, where 191 deaths were registered for the month ending February 29, 1880.

During the month of March the following deaths were reported in the United States:

Week ending	March	6,	Philadelphia	2	deaths.
"	"	13,	———		
"	"	20,	Philadelphia	4	"
"	"	"	Washington	1	"
"	"	27,	Philadelphia	1	"

During the month of March a death was reported at Troy, New York, and two more fatal cases at Ypsilanti,[4] Michigan. The disease also made its appearance at Underhill, Vermont.[5]

A marked decrease in the number of deaths from smallpox in the United States is here noticeable. The approach of warm weather seemed to check the tendency to spread not only in this country but in Europe. Nevertheless deaths were reported abroad at Brussels, Havana, Dublin, London, Vienna, Buda Pesth, Trieste, and Warsaw; the mortality at Paris, France, however, continued to be large, and at Valparaiso, Chili, 125 deaths were recorded for the month ending March 31, 1880.

During the month of April the mortality from smallpox in the United States was as follows:

Week ending	April	3,	Philadelphia	1	death.
"	"	10,	Chicago	1	"
"	"	17,	Philadelphia	3	"
"	"	"	Chicago	3	"
"	"	24,	Worcester	1	"
"	"	"	Philadelphia	1	"

Several non-fatal cases were reported in New York Hospitals, and one case at a Cincinnati Hospital.

In April deaths were reported in London, Dublin, Paris, Lyons, Brussels, Vienna, Trieste, and Havana. At Pernambuco, Brazil, there was a sudden subsidence of the epidemic tendency, while at Antwerp, Belgium, there was a largely increased mortality. At Valparaiso, Chili, there was a steady decline in the mortality rate, only 63 deaths being reported for the month ending April 30, 1880.

In May the mortality from smallpox in the United States was distributed as follows:

Week ending	May	1,	Philadelphia	1	death.
"	"	"	Chicago	4	"
"	"	8,	Fall River, Mass.	2	"
"	"	"	Philadelphia	2	"
"	"	"	Chicago	2	"
"	"	15,	Fall River	1	"
"	"	"	Lowell, Mass.	1	"
"	"	"	New York	1	"
"	"	"	Philadelphia	3	"
"	"	"	Chicago	1	"
"	"	22,	"	1	"
"	"	"	Philadelphia	3	"
"	"	29	Philadelphia	1	"
"	"	"	New York	1	"

During the month cases were also reported at Orange Court House, Virginia,[1] and in the New York Hospital.[2]

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[1] Two vessels bound for the United States, i. e., the bark "Camille," for New York, and the "Nellie Brett," for Hampton Road, left Iquique during the month with smallpox aboard.

[2] Prevailing extensively among Chilian and Peruvian troops, and probably imported from Valparaiso.

[3] Imported into Japan from China on the British steamer "Escambia."

[4] The Ypsilanti, Michigan cases were said to have contracted the disease from infected rags, both parties being employes of paper mills. A late copy of the Michigan State Board of Health Reports would seem to discredit the original statements made in regard to these cases.

[5] Traced to importation from Worcester, Mass., where the disease was prevalent.

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[1] Disease imported from Washington City, D. C.

[2] Smallpox was constantly being imported to the United States through New York by vessels from Europe. In April the ship "San Stephano," from Antwerp, an infected port, arrived with cases aboard. The "Zealand," also infected, arrived. The "Hapsburg," from Bremen, entered port on May 6th, and the first death reported in

On May 10, 1880, Dr. Stephen Smith, of New York, member of the National Board of Health, offered a resolution instructing the Quarantine Officers of Atlantic Ports to be outlook for infected immigrants, claiming that this class of people were introducing smallpox into the United States. Dr. Smith was undoubtedly right as to the real causation of the disease in this country, Nevertheless it would be an extremely difficult matter for the quarantine officers to always prevent the disease, owing to its long period of incubation, for in smallpox a man may make any ordinary ocean voyage—in these days of rapid transit—and entering the country from Europe or Asia may pass a quarantine inspection in apparently good condition, only to be taken ill afterwards at Chicago or San Francisco. The difficulty of enforcing a perfect quarantine under such conditions is easily understood by those who have had a practical experience in such management.

During the month of May deaths from smallpox were reported in London, Dublin, Lyons, Vienna, Trieste, Buda Pesth, Santiago, de Cuba, Montreal, and Christiana, Norway.[1]

The disease was especially prevalent in Antwerp, Belgium; Paris, France; Havana, Cuba; and Talcahmano, Peru, 136 deaths being reported in the latter city for the month ending May 31, 1880.

During the first week of June, 1880, no deaths from smallpox was reported in the United States; but the following mortality was reported the subsequent week:

Week ending June	12,	Philadelphia	3	deaths.
" "	19,	Philadelphia	1	"
" "	"	Chicago	3	"
" "	26,	Chicago	6	"
" "	"	Philadelphia	2	"

On June 2d, a case was reported in the State of Mississippi.[2] Cases were also reported at the New York Quarantine,[3] and at Cleveland, Ohio.[4]

During the month the disease was prevalent in London, Dublin, Vienna, Trieste, Buda-Pesth, Lyons, Brussels, Christiana, and Stockholm. It prevailed epidemically in Antwerp, Belgium; Paris, France; Zemphi, Hungary; Havana, Cuba; and Lambaque, Peru.

During the month of July the mortality of the United States, as officially reported, was as follows:

Week ending July	3,	Philadelphia	1	death.
" "	10,	Philadelphia	1	"
" "	"	Chicago	1	"
" "	17,	Chicago	2	"
" "	"	Brooklyn	1	"
" "	24,	Philadelphia	1	"
" "	31,	New York	2	"
" "	"	Philadelphia	2	"

During the month an outbreak of smallpox was reported at Camden, New Jersey.[1] Cases were also reported at the New York Quarantine Station.[2]

In July, 1880, the disease was present in London, Christiana, Lyons, Dublin, and in Seville, Spain. It increased in violence at Antwerp, Belgium and Paris, France, and was extremely prevalent and fatal at Acapulco, Mexico.

During the month of August the following mortality from smallpox in the United States was reported:

Week ending August	7,	Philadelphia	7	deaths.
" "	"	Camden. N.J.	2	"
" "	"	San Francisco	1	"
" "	14,	Philadelphia	3	"
" "	"	Camden	3	"
" "	"	Chicago	1	"
" "	21,	Camden	9	"
" "	"	Philadelphia	3	"
" "	28,	Camden	5	"
" "	"	Philadelphia	5	"

A large increase in the number of cases and a heavier mortality was noticeable during the month. Brownsville, Texas[3] also reported an outbreak.

Abroad, during the month of August, 1880, smallpox was present in Dublin, Paris, Buda Pesth, Antwerp, Rome, Montreal, and Havana. At Valparaiso, Chili, the epidemic tendency was fast disappearing, but at Santaigo de Cuba, 40 deaths

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New York during the month was from this vessel. The "Gellert," from Hamburg, and the steamer "Vaderland," from Antwerp, also arrived in May with smallpox patients aboard.

[1] Imported into Christiana, Norway, by a sailor on the steamer "Reserve," from Memel, Prussia. Shortly afterwards it appeared in the paper mills of Bensberg and spread rapidly; the real origin of the latter outbreak being due to infected rags.

[2] On a plantation 3½ miles from Columbus, Miss., the supposed cause of contagion being a camp of Bohemian Gypsies in the immediate neighborhood.

[3] The steamer "Herder," from Hamburg, steamer "Main," from Bremen, and the steamer "Arizona," from Liverpool, arrived in New York during the month with smallpox patients aboard.

[4] The disease was evidenced in five immigrants, Bohemians, who arrived in New York about the 6th of June, and afterwards developed the disease in Cleveland, Ohio.

[1] Early in February a negro who had been whitewashing a house in Philadelphia that had been infected by smallpox was stricken down with the disease at Camden. Neighbors visited him during his illness and in this way spread the disease. In July it became epidemic.

[2] The steamer "Allemania," from Hamburg, arrived in New York with smallpox cases aboard in July.

[3] The disease was imported into Brownsville from Matamoras, Mexico.

were reported for the month ending August 31st.

For the month of September, 1880, the following mortality was reported in the United States:

Week ending	Sept.	4,	Camden	2	deaths.
“	“	“	Philadelphia	8	“
“	“	11,	Philadelphia	7	“
“	“	“	Camden	4	“
“	“	18,	Philadelphia	6	“
“	“	“	Chicago	1	“
“	“	“	San Francisco	3	“
“	“	25,	Philadelphia	7	“
“	“	“	New York	2	“
“	“	“	Brooklyn	1	“
“	“	“	Chicago	1	“

It will be seen from this table that the epidemic tendency for the month was manifest in at least six large American cities, and an early and widespread outbreak of the disease could easily be predicted.

Abroad smallpox deaths were reported in London, Paris, Vienna, Trieste, Buda Pesth, Venice, Seville, and Havana. In Antwerp, Belgium, the disease had become epidemic.

During the month of October deaths were reported in the following cities of the United States:

Week ending	Oct.	2.	Camden, N.J.	1	death.
“	“	“	Philadelphia	5	“
“	“	9,	Lansingburg, N.Y.	1	“
“	“	“	Camden	1	“
“	“	“	Philadelphia	9	“
“	“	“	Chicago	1	“
“	“	16,	Boston	1	“
“	“	“	New York	1	“
“	“	“	Camden	2	“
“	“	“	Philadelphia	13	“
“	“	23.	New York	1	“
“	“	“	Camden	1	“
“	“	“	Philadelphia	11	“
“	“	“	San Francisco	1	“
“	“	30,	Camden	3	“
“	“	“	Philadelphia	10	“
“	“	“	Chicago	1	“

During the month the disease also appeared at Amsterdam, New York.[1]

Abroad, during the month of October, smallpox deaths were reported in Paris, Marseilles, Antwerp, Vienna, Copenhagen, Rome, Venice, Havana, and Matamoras, Mexico. The epidemic tendency seemed to be subsiding throughout Europe except in Italy and Spain.

In the month of November, 1880, the following deaths were reported in the United States:

Week ending	Nov.	6,	Camden, N.J.,	2	deaths.
“	“	“	Philadelphia,	22	“
Week ending	Nov.	6,	San Francisco	1	death.
“	“	13,	Brooklyn	1	“
“	“	“	Camden	1	“
“	“	“	Philadelphia	18	“
“	“	“	San Francisco	13	“
“	“	20,	New York	1	“
“	“	“	Camden	1	“
“	“	“	Philadelphia	20	“
“	“	“	San Francisco	6	“
“	“	27,	New York	3	“
“	“	“	Philadelphia	25	“
“	“	“	San Francisco	2	“

It will be seen from this mortality statement that cases had again been developed in New York[1] and Brooklyn.

Deaths were reported in November at Paris, London, Vienna, Buda Pesth, Antwerp, Venice, Genoa, Rome, Malaga, Havana, and Matamoras, Mexico.

The only severely infected cities in Europe at this time being Antwerp, Belgium, and Rome, Italy.

During the month of December, 1880, the following deaths were reported in the United States:

Week ending	Dec.	4.	Camden, N.J.	3	deaths.
“	“	“	Philadelphia	32	“
“	“	“	San Francisco	2	“
“	“	11.	New York	7	“
“	“	“	Camden	2	“
“	“	“	Philadelphia	26	“
“	“	“	Chicago	1	“
“	“	18,	New York	2	“
“	“	“	Philadelphia	40	“
“	“	“	San Francisco	2	“
“	“	25.	New York	3	“
“	“	“	Camden	1	“
“	“	“	Philadelphia	38	“
“	“	“	Chicago	6	“

The largely increased mortality in the United States for the last month of the year 1880 is plainly evidenced by this table. In New York[2] the disease seems to have taken a fresh start.

During the month of December deaths were reported in Paris, Bordeaux, Lyons, Antwerp, Vienna, London, Amsterdam, Buda Pesth, Rome, and Havana. The disease seemed to have completely subsided in Montreal, Canada.

The following table, compiled from the Bulletins of the National Board of Health, exhibits the total mortality from smallpox in the United States for the year 1880:

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[1] Imported from Troy, New York.

[1] The barque "Kings County," from the infected port of Antwerp, and the steamer "Castalia," from infected Italian ports, arrived in New York during the month of November with smallpox cases aboard.

[2] The steamer "Italia," from Naples, arrived at the port of New York during the month with smallpox cases aboard.

MONTHS.	TOTAL DEATHS.	Distribution of deaths through the various sections of the United States.[1] N.-E.	S.-E.	N.-W.	Pacific Slope
January	35	22	13	—	—
February	25	21	4	—	—
March	8	7	1	—	—
April	15	7	—	8	—
May	20	15	1	4	—
June	15	6	—	9	—
July	11	8	—	3	—
August	39	37	—	1	1
September	42	37	—	2	3
October	63	60	—	2	1
November	116	94	—	—	22
December	227	215	—	7	5
	616	529	19	36	32

A few scattering cases, where the final history was doubtful, are not included in this table. Making a liberal estimate for the total mortality in the United States and including the scattering cases occurring in Michigan, Kentucky, Louisiana, Texas, New York and Illinois, the total number of deaths occurring in this country during 1880 did not exceed 700. The principal mortality for the year was in the following cities:

Worcester, Mass.	14
New York	30
Philadelphia	424
Washington	17
Chicago	42
San Francisco	28
Total	555

1881.

During the month of January, 1881, the mortality from smallpox in the United States was distributed as follows:

Week ending Jan.	1,[2]	New York	6	deaths.
“ “	“	Camden, N. J.	3	“
“ “	“	Philadelphia	53	“
“ “	8	New York	7	“
“ “	“	Camden	2	“
“ “	“	Philadelphia	55	“
“ “	15	New York	9	“
“ “	“	Hudson County	2	“
“ “	“	Camden	2	“
“ “	“	Philadelphia	40	“
“ “	“	Wilmington, Delaware	2	“
“ “	“	San Francisco	2	“
“ “	22	New York	9	“
“ “	“	Philadelphia	47	“
“ “	“	Chicago	13	“
Week ending Jan.	22,	San Francisco	5	deaths
“ “	“	Muscantine, Ia.	1	“
“ “	29	New York	5	“
“ “	“	Hudson County	1	“
“ “	“	Philadelphia	54	“
“ “	“	Wilmington, Delaware	1	“
“ “	“	Chicago	4	“

It will by noticed that smallpox appeared in Iowa (Muscatine), and Delaware (Wilmington),[1] and also in Hudson county, New Jersey.

Deaths also occurred in Hartford, Connecticut, and Lake, Illinois.[2]

Abroad, during the month of January, deaths from variola were reported in Copenhagen, Antwerp, Lyons, Buda Pesth, Bucharest, Rome, Vienna and Malaga. In Paris, London and Vienna a largely increased mortality was noticeable. In Havana the disease prevailed as an epidemic, and at Valparaiso, Chili, a fresh out-break occurred, thirty-five deaths being reported for the month ending February 1st.

During he month of February 1881, the following deaths from smallpox were reported in the United States.

Week ending Feb.	5,	New York	4	deaths.
“ “	“	Brooklyn	2	“
“ “	“	Orange, N. Y.	2	“
“ “	“	Philadelphia	61	“
“ “	“	Chicago	6	“
“ “	12	New York	6	“
“ “	“	Hudson, N. Y.	3	“
“ “	“	Philadelphia	49	“
“ “	“	Brownsville, Texas	9	“
“ “	“	Davenport, Ia.	1	“
“ “	“	Chicago	9	“
“ “	“	San Francisco	1	“
“ “	19	New York	5	“
“ “	“	Newark, N. J.	1	“
“ “	“	Hudson County	2	“
“ “	“	Camden	1	“
“ “	“	Philadelphia	49	“
“ “	“	Pittsburg	2	“
“ “	“	Brownsville	5	“
“ “	“	Chicago	9	“
“ “	“	San Francisco	2	“
“ “	26	New Britain, Conn.	1	“
“ “	“	New York	7	“
“ “	“	Brooklyn	2	“
“ “	“	Hudson County	1	“
“ “	“	Camden	3	“
“ “	“	Philadelphia	44	“
“ “	“	Pittsburg	4	“
“ “	“	Wilmington	1	“
“ “	“	Brownsville	7	“
“ “	“	Chicago	8	“
“ “	“	San Francisco	1	“

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[1] Does not include full returns for the last week of the month; but deaths not included in previous monthly statements are included in the above table.

[2] Six days mortality of 1880 included. The majority of these deaths are included in the total footings for December, 1880, and their introduction at this point is only to preserve uniformity in arrangement.

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[1] Imported from Philadelphia and soon became epidemic.

[2] Cases contracted in Chicago, and the first persons attacked were removed to the Chicago pest house.

A largely increased mortality and the wide spread prevalence of the disease is here again noticeable.

Abroad, during the month, deaths were reported in Vienna, Antwerp, Buda Pesth, Warsaw, Lyons, Rome and Malaga. A largely increased number of deaths were reported in London, Havana and Acapulco, Mexico. The disease became epidemic at Constantinople, Turkey, and also made its appearance at Honolulu, Sandwich Islands,[1] and Ningpo, China.[2]

During the month of March the following cities in the United States reported deaths:

Week ending	March	5,	New York	1	death.
"	"	"	Brooklyn	1	"
"	"	"	Hudson Co.	1	"
"	"	"	Philadelphia	49	"
"	"	"	Brownsville	4	"
"	"	"	Chicago	3	"
"	"	12	North Adams, Massachusetts	1	"
"	"	"	New York	8	"
"	"	"	Philadelphia	45	"
"	"	"	Pittsburg	1	"
"	"	"	Cincinnati	1	"
"	"	"	Chicago	8	"
"	"	19	New Britain, Conn.	1	"
"	"	"	New York	12	"
"	"	"	Brooklyn	1	"
"	"	"	Poughkeepsie	1	"
"	"	"	Hudson Co.	1	"
"	"	"	Camden	1	"
"	"	"	Philadelphia	37	"
"	"	"	Chicago	12	"
"	"	26	Brooklyn	1	"
"	"	"	New York	10	"
"	"	"	Hudson Co.	4	"
"	"	"	Newark, N. J.	1	"
"	"	"	Plainfield, New Jersey	1	"
"	"	"	Philadelphia	43	"
"	"	"	Pittsburg	1	"
"	"	"	Vicksburg, Mississippi	1	"
"	"	"	Chicago	4	"
"	"	"	Lake, Ills.	2	"

It will be noticed that the disease appeared in the South at Vicksburg, Mississippi,[3] and at Wilmington, North Carolina.[4]

Abroad during the month of March, deaths were reported in Liverpool, Paris, Berlin, Breslau, Vienna, Buda Pesth, Triesti, Antwerp, Warsaw, Christiana, Belfast, Malaga, and at Calcutta, British India. The disease was exceedingly prevalent in London, Havana, Acapulco and Matamoras, Mexico. In March 123 deaths were also reported from Honolulu, Sandwich Islands; and the epidemic tendency suddenly and most strangely subsided at Constantinople, Turkey.

During the month of April, 1881, the following deaths were officially reported at various points in the United States:

Week ending	April	2,	New York	13	deaths.
"	"	"	Hudson Co.	8	"
"	"	"	Camden	2	"
"	"	"	Philadelphia	41	"
"	"	"	Richmond	1	"
"	"	"	Cincinnati	1	"
"	"	"	Chicago	4	"
"	"	"	San Francisco	2	"
"	"	9	New York	9	"
"	"	"	Hudson Co.	6	"
"	"	"	Camden	1	"
"	"	"	Philadelphia	36	"
"	"	"	Pittsburg	1	"
"	"	"	Wilmington, Delaware	1	"
"	"	"	Richmond, Va.	1	"
"	"	"	Chicago	3	"
"	"	"	San Francisco	3	"
"	"	16	New York	11	"
"	"	"	Newbury, New York	1	"
"	"	"	Hudson, Co.	4	"
"	"	"	Philadelphia	37	"
"	"	"	Wilmington, Delaware	3	"
"	"	"	Chicago	9	"
"	"	"	San Francisco	6	"
"	"	23	New York	9	"
"	"	"	Hudson Co.	2	"
"	"	"	Philadelphia	33	"
"	"	"	Wilmington, Delaware	9	"
"	"	"	Richmond	1	"
"	"	"	Louisville	2	"
"	"	"	Cincinnati	1	"
"	"	"	Chicago	11	"
"	"	"	San Francisco	2	"
"	"	30	New York	17	"
"	"	"	Binghampton, New York	1	"
"	"	"	Hudson Co.	8	"
"	"	"	Camden	1	"
"	"	"	Philadelphia	42	"
"	"	"	Pittsburg	1	"
"	"	"	Richmond	2	"
"	"	"	New Orleans	1	"
"	"	"	Chicago	8	"
"	"	"	San Francisco	2	"

The tendency of the disease to spread is more than evident by this table.

Abroad during the month deaths were reported in Liverpool, Paris, Lyons, Antwerp, Berlin, Bucharest, Moscow, Malaga,

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[1] Imported on the Chinese ship *Mee Foo*, on February 3d, 1881. The disease soon became epidemic, but subsided adout the 1st of September. 839 cases and 288 deaths were reported—a mortality of about 34⅓ per cent The Island of Oaha, Honolulu, suffered most severely. A rigid quarantine is now maintained against Chinese ships.

[2] Largely increased mortality owing to the usual Spring-time practice of innoculation.

[3] Single case—a deck-hand from a Mississippi River steamboat—disease contracted in Louisville, Ky.

[4] Single case—imported on vessel *Katie Collins*.

Calcutta, Vera Cruz, and Acapulco, Mexico. In London, Vienna and Havana the disease prevailed extensively.

During the month of May, 1881, the following deaths were registered in the various cities of the United States:

Week ending	May	7.	New York	12	deaths.
"	"	"	Hudson Co.	3	"
"	"	"	Philadelphia	35	"
"	"	"	Pittsburg	3	"
"	"	"	Wilmington, Delaware	8	"
"	"	"	Richmond	1	"
"	"	"	Chicago	12	"
"	"	"	Kansas City	1	"
"	"	"	San Francisco	2	"
"	"	14	New Haven, Connecticut	1	"
"	"	"	New York	19	
"	"	"	Brooklyn	1	"
"	"	"	Hudson Co.	6	"
"	"	"	Camden	3	"
"	"	"	Philadelphia	35	"
"	"	"	Pittsburg	1	"
"	"	"	Wilmington	12	"
"	"	"	Washington	1	"
"	"	"	New Orleans	1	"
"	"	"	Cincinnati	2	"
"	"	"	Chicago	11	"
"	"	"	Peoria, Ill.	1	"
"	"	"	Lake, Ill.	1	"
"	"	"	Kansas City	1	"
"	"	"	San Francisco	2	"
"	"	21	New York	20	"
"	"	"	Brooklyn	2	"
"	"	"	Hudson Co.	2	"
"	"	"	Philadelphia	23	"
"	"	"	Pittsburg	1	"
"	"	"	Wilmington	7	"
"	"	"	Louisville	2	"
"	"	"	Cincinnati	1	"
"	"	"	Evansville, Ind.	1	"
"	"	"	Chicago	7	"
"	"	"	San Francisco	1	"
"	"	28	New York	15	"
"	"	"	Brooklyn	2	"
"	"	"	Buffalo	1	"
"	"	"	Philadelphia	29	"
"	"	"	Pittsburg	2	"
"	"	"	Wilmington	5	"
"	"	"	Richmond	1	"
"	"	"	Chicago	13	"
"	"	"	Lake, Ill.	1	"
"	"	"	San Francisco	1	"

During the month deaths were reported in Paris, Bordeaux, Marseilles, Berlin, Vienna, Buda Pesth, Moscow, Riga, Antwerp, Rome, Malaga, San Domingo, and Queenstown, Ireland.[1] In London and Havana[2] the disease continued to be prevalent.

During the month of June, 1881, the following mortality was reported in th United States.

Week ending	June	4.	New York	20	death
"	"	"	Falls River, Mass.	1	"
"	"	"	Brooklyn	1	"
"	"	"	Hudson Co.	1	"
"	"	"	Camden	1	"
"	"	"	Philadelphia	27	"
"	"	"	Reading. Penn.	1	"
"	"	"	Wilmington	5	"
"	"	"	Louisville	1	"
"	"	"	Chicago	8	"
"	"	"	Lake. Ill.	1	"
"	"	"	San Francisco	2	"
"	"	11	New York	15	"
"	"	"	Brooklyn	2	"
"	"	"	Hudson Co.	2	"
"	"	"	Newark. N. J.	1	"
"	"	"	Camden	1	"
"	"	"	Philadelphia	29	"
"	"	"	Pittsburg	1	"
"	"	"	Wilmington	4	"
"	"	"	Richmond	1	"
"	"	"	Chicago	4	"
"	"	"	Minnapolis, Minn	1	"
"	"	18	Boston	1	"
"	"	"	New York	23	"
"	"	"	Brooklyn	1	"
"	"	"	Hudson Co.	1	"
"	"	"	Philadelphia	20	"
"	"	"	Pittsburg	2	"
"	"	"	Wilmington	3	"
"	"	"	Richmond	3	"
"	"	"	Chicago	4	"
"	"	"	Omaha	1	"
"	"	"	San Francisco	2	"
"	"	25	New York	10	"
"	"	"	Brooklyn	1	"
"	"	"	Hudson Co.	1	"
"	"	"	Camden	1	"
"	"	"	Pittsburg	4	"
"	"	"	Wilmington	3	"
"	"	"	Richmond	6	"
"	"	"	Chicago	15	"

Abroad, during the month, deaths were reported in Paris, Havre, Brussells, Munich, Copenhagen, Liverpool, Antwerp, Amsterdam, Buda Pesth, St. Petersburg and Rome. The death rate in London and Vienna was comparatively high but throughout the rest of Europe the mortality was much less than in the previous month (May). At Vera Cruz, Mexico, the disease was of a very malignant type. 84 deaths were reported in Havana during June and only 3 deaths at Honolulu, Sandwich Islands.

During the month of July the mortality from smallpox in the United States was distributed as follows:

Week ending	July	2.	New York	16	deaths.
"	"	"	Brooklyn	1	"
"	"	"	Hudson Co.	1	"

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[1] Imported into Queenstown, Ireland, from Philadelphia, U. S.

[2] May 16th, 1881, the infected bark, *Ada Barton*, left Havana for New Orleans.

Week ending	July	2,	Philadelphia	18	deaths.
“	“	“	Pittsburg	2	“
“	“	“	Verona, Minn.	1	“
“	“	“	Louisville	1	“
“	“	“	Cleveland	1	“
“	“	“	Minenapolis	1	“
“	“	9	Westfield, Mass.	2	“
“	“	“	New York	7	“
“	“	“	Brooklyn	2	“
“	“	“	Philadelphia	16	“
“	“	“	Pittsburg	3	“
“	“	“	Louisville	3	“
“	“	“	Chicago	10	“
“	“	“	Allegheny	2	“
“	“	“	Cincinnati	1	“
“	“	16	Westfield	1	“
“	“	“	New York	6	“
“	“	“	Brooklyn	1	“
“	“	“	Philadelphia	14	“
“	“	“	Camden	1	“
“	“	“	Pittsburg	10	“
“	“	“	Wilmington	6	“
“	“	“	Richmond	3	“
“	“	“	Louisville	1	“
“	“	“	Chicago	15	“
“	“	“	Minneapolis	1	“
“	“	23	New York	8	“
“	“	“	Brooklyn	2	“
“	“	“	Hudson Co.	5	“
“	“	“	Philadelphia	10	“
“	“	“	Pittsburg	12	“
“	“	“	Wilmington	2	“
“	“	“	Louisville	1	“
“	“	“	Chicago	8	“
“	“	“	Milwaukee	1	“
“	“	30	New York	8	“
“	“	“	Hudson Co.	1	“
“	“	“	Philadelphia	12	“
“	“	“	Pittsburg	3	“
“	“	“	Wilmington	8	“
“	“	“	Louisville	2	“
“	“	“	Chicago	12	“
“	“	“	Boulder, Utah	1	“

During the month deaths were reported abroad in London, Liverpool, Paris, Lyons, Havre, Antwerp, Bremen, Buda Pesth, Vienna, Prague, Copenhagen, Amsterdam, Geneva, St. Petersburg, Warsaw, Venice, Cadiz, Seville, San Domingo, Havana, Acapulco, and Carthagena, United States of Colombo. While the disease was so widely distributed in Europe the mortality was comparatively light.

During the month of August the mortality from smallpox in the United States was distributed as follows:

Week ending	Aug.	6.	New York	12	deaths.
“	“	“	Brooklyn	2	“
“	“	“	Hudson Co.	2	“
“	“	“	Philadelphia	11	“
“	“	“	Pittsburg	7	“
“	“	“	Wilmington	5	“
“	“	“	Richmond	1	“
“	“	“	Louisville	1	“
“	“	“	Chicago	25	“
“	“	“	San Francisco	1	“
Week ending	Aug.	6,	Allegheny	1	death.
“	“	13	New York	7	“
“	“	“	Hudson Co.	3	“
“	“	“	Philadelphia	12	“
“	“	“	Pittsburg	12	“
“	“	“	Richmond	1	“
“	“	“	Chicago	23	“
“	“	20	New York	6	“
“	“	“	Brooklyn	1	“
“	“	“	Hudson Co.	2	“
“	“	“	Philadelphia	10	“
“	“	“	Wilmington	4	“
“	“	“	Chicago	20	“
“	“	“	Port Huron, Michigan	1	“
“	“	“	San Francisco	3	“
“	“	27	New York	6	“
“	“	“	Hudson Co.	2	“
“	“	“	Philadelphia	10	“
“	“	“	Pittsburg	17	“
“	“	“	Richmond	2	“
“	“	“	Chicago	28	“
“	“	“	San Francisco	1	“
“	“	“	Allegheney	1	“
“	“	“	Kenosha. Wis	1	“

During the month deaths from smallpox were reported in Liverpool, Antwerp, Prague, St. Petersburg, Leipsic, Brussells, and San Domingo. At Warsaw and Buda Pesth the type of disease was very malignant. Numerous deaths were reported in London, Paris and Vienna.

For the month of September, 1881, the mortality from smallpox in the United States was distributed as follows:

Week ending	Sept.	3,	New York	3	deaths.
“	“	“	Philadelphia	9	“
“	“	“	Pittsburg	11	“
“	“	“	Wilmington	1	“
“	“	“	Richmond	2	“
“	“	10	New York	4	“
“	“	“	Brooklyn	1	“
“	“	“	Hudson Co.	5	“
“	“	“	Philadelphia	25	“
“	“	“	Pittsburg	11	“
“	“	“	Cincinnati	1	“
“	“	“	Chicago	14	“
“	“	17	New York	2	“
“	“	“	Hudson Co.	4	“
“	“	“	Philadelphia	10	“
“	“	“	Pittsburg	19	“
“	“	“	Wilmington	1	“
“	“	“	Chicago	35	“
“	“	“	St. Louis	1	“
“	“	“	Allegheny	1	“
“	“	24	New York	1	“
“	“	“	Hudson County	2	“
“	“	“	Philadelphia	12	“
“	“	“	Pittsburg	16	“
“	“	“	Richmond	1	“
“	“	“	Chicago	26	“
“	“	“	San Francisco	2	“
“	“	“	Allegheny	2	“

Abroad, during the month, deaths were reported in London, Liverpool, Paris, Bordeaux, Lyons, Amsterdam, Vienna, Buda Pesth, St. Petersburg, Warsaw, Naples and Havana. The mortality however was comparatively light.

In October, 1881, deaths from smallpox were reported in the following cities of the United States.

Week ending	Oct.	1,	New York	3	deaths.
“	“	“	Hudson County	3	“
“	“	“	Philadelphia	11	“
“	“	“	Pittsburg	12	“
“	“	“	Washington	1	“
“	“	“	Richmond	1	“
“	“	“	Chicago	26	“
“	“	“	Allegheny	2	“
“	“	8	New York	2	“
“	“	“	Hudson County	4	“
“	“	“	Philadelphia	7	“
“	“	“	Pittsburg	18	“
“	“	“	Wilmington	2	“
“	“	“	Richmond	2	“
“	“	“	Cincinnati	1	“
“	“	“	Chicago	41	“
“	“	“	St. Louis	1	“
“	“	15	New York	4	“
“	“	“	Hudson County	4	“
“	“	“	Philadelphia	11	“
“	“	“	Pittsburg	22	“
“	“	“	Wilmington	5	“
“	“	“	Richmond	8	“
“	“	“	Cincinnati	2	“
“	“	“	Chicago	35	“
“	“	“	Allegheny	5	“
“	“	22	Allegheny	5	“
“	“	“	Madison, Ind.	1	“
“	“	“	New York	1	“
“	“	“	Hudson County	2	“
“	“	“	Philadelphia	9	“
“	“	“	Pittsburg	11	“
“	“	“	Richmond	2	“
“	“	“	Cincinnati	2	“
“	“	“	Chicago	41	“
“	“	“	San Francisco	1	“
“	“	29	Allegheny	5	“
“	“	“	Boston	3	“
“	“	“	New York	7	“
“	“	“	Hudson County	8	“
“	“	“	Philadelphia	6	“
“	“	“	Pittsburg	21	“
“	“	“	Wilmington	1	“
“	“	“	Richmond	4	“
“	“	“	Cincinnati	3	“
“	“	“	Chicago	49	“

During the month the disease appeared at Easton, Penn. Abroad, during October, the disease seemed to have almost subsided with the exception of Bordeaux, France, where it prevailed as a sub-epidemic. Deaths were still reported however in London, Paris, Vienna and Buda Pesth.

During the month of November the smallpox mortality of the United States was distributed as follows:

Week ending	Nov.	5.	New York	7	deaths.
“	“	“	Gloucester, Mass	1	“
Week ending	Nov.	5,	Brooklyn	1	death.
“	“	“	Hudson Co.	10	“
“	“	“	Philadelphia	13	“
“	“	“	Pittsburg	24	“
“	“	“	Wilmington	1	“
“	“	“	Richmond	9	“
“	“	“	Chicago	8	“
“	“	“	Elgin, Ill	1	“
“	“	“	Allegheny	6	“
“	“	“	Madison	1	“
“	“	“	San Francisco	2	“
“	“	12	Allegheny	4	“
“	“	“	Boston	2	“
“	“	“	New York	2	“
“	“	“	Hudson Co.	4	“
“	“	“	Philadelphia	11	“
“	“	“	Wilmington	2	“
“	“	“	Richmond	9	“
“	“	“	Chicago	25	“
“	“	“	Cincinnati	1	“
“	“	“	Madison	3	“
“	“	19	Holyoke, Mass	1	“
“	“	“	New York	7	“
“	“	“	Brooklyn	2	“
“	“	“	Buffalo	1	“
“	“	“	Hudson, Co.	15	“
“	“	“	Philadelphia	18	“
“	“	“	Pittsburg	22	“
“	“	“	Richmond	6	“
“	“	“	Cincinnati	3	“
“	“	“	Chicago	20	“
“	“	“	Allegheny	6	“
“	“	“	San Francisco	1	“
“	“	26	Allegheny	9	“
“	“	“	New York	8	“
“	“	“	Hudson Co.	11	“
“	“	“	Philadelphia	16	“
“	“	“	Pittsburg	20	“
“	“	“	Richmond	12	“
“	“	“	Cincinnati	5	“
“	“	“	Madison	1	“
“	“	“	Chicago	28	“

The disease also made its appearance during the month at Biddeford, Maine,[1] Springfield, Mass.,[2] Baltimore, Md.,[3] Rochester, N. Y.; South Bend[4] and Richmond, Indiana, Little Rock, Arkansas,[5] and New Orleans, La.[6]

Abroad, during the month, deaths were reported in London, Paris, Lyons, Havre. At St. Petersburg and Vienna quite a heavy mortality was noticed and the disease was unusually fatal in Warsaw.

During the month of December, 1881, the mortality from smallpox in the United States was distributed as follows:

Week ending	Dec. 3d,	Holyoke, Mass.	3	deaths.

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[1] Imported into Biddeford from Canada.

[2] Imported into Springfield by the paper house of Whibney & Parsons. Infected rags in rag room of paper mills.

[3] Imported from Allegheny, Pennsylvania, by a family which arrived in Baltimore with a sick child.

[4] Imported into South Bend from La Porte, Indiana, direct line of infection Chicago.

[5] Little Rock, Arkansas, imported from Chicago.

[6] Imported case from Havana, Cuba.

Week ending	Dec.	3,	New York	4	deaths.
“	“	“	Brooklyn	1	“
“	“	“	Hudson Co.	12	“
“	“	“	Philadelphia	14	“
“	“	“	Pittsburg	28	“
“	“	“	Richmond	13	“
“	“	“	Cincinnati	2	“
“	“	“	Chicago	31	“
“	“	“	Elgin, Ill.	1	“
“	“	“	St. Louis	1	“
“	“	“	Allegeny	11	“
“	“	“	Winchester, Va.	1	“
“	“	“	San Francisco	1	“
“	“	10	Holyoke	4	“
“	“	“	New York	12	“
“	“	“	Brooklyn	1	“
“	“	“	Buffalo	1	“
“	“	“	Hudson Co.	10	“
“	“	“	Philadelphia	20	“
“	“	“	Pittsburg	15	“
“	“	“	Wilmington	1	“
“	“	“	Richmond	8	“
“	“	“	New Orleans	1	“
“	“	“	Cincinnati	7	“
“	“	“	Vincennes	1	“
“	“	“	Chicago	33	“
“	“	“	Milwaukee	1	“
“	“	“	Allegheny	9	“
“	“	17	Boston	2	“
“	“	“	New Bedford	1	“
“	“	“	Holyoke	5	“
“	“	“	New York	12	“
“	“	“	Hudson Co.	5	“
“	“	“	Philadelphia	16	“
“	“	“	Pittsburg	30	“
“	“	“	Wilmington	2	“
“	“	“	Richmond	15	“
“	“	“	Cincinnati	2	“
“	“	“	Chicago	25	“
“	“	“	Lake, Ill.	1	“
“	“	“	Allegheny	14	“
“	“	“	Madison	2	“
“	“	24	Holyoke	1	“
“	“	“	New York	11	“
“	“	“	Brooklyn	1	“
“	“	“	Buffalo	1	“
“	“	“	Hudson Co.	17	“
“	“	“	Newark	1	“
“	“	“	Philadelphia	11	“
“	“	“	Pittsburg	25	“
“	“	“	Richmond	16	“
“	“	“	New Orleans	1	“
“	“	“	Cincinnati	14	“
“	“	“	Chicago	27	“
“	“	“	Lake, Ill.	1	“
“	“	“	Allegheny	16	“
“	“	“	Madison	1	“
“	“	31	Holyoke	1	“
“	“	“	New York	9	“
“	“	“	Brooklyn	1	“
“	“	“	Hudson County	11	“
“	“	“	Philadelphia	29	“
“	“	“	Pittsburg	27	“
“	“	“	New Orleans	1	“
“	“	“	Cincinnati	10	“
“	“	“	Chicago	25	“
“	“	“	Lake, Ill.	1	“
“	“	“	Keokuk, Ia.	2	“
“	“	“	St. Louis	2	“
“	“	“	Kansas City	1	“

During December the disease made its appearance in Cambridge, Mass., East Liverpool, Ohio, Winchester, Va., Grand Rapids, Mich.,[1] Indianapolis, Ind., Dayton, Ohio, New Bedford, Mass.,[2] Vicksburg, Miss.,[3] Milan, Tenn., Keokuk, Ia.,[4] and numerous small villages and hamlets of the country such as Helena, Montana, and Dayton, Washington Territory.

Abroad, during the month, deaths were reported in Paris, London, Vienna, Christiana, St. Petersburg, Warsaw. In Russia especially the disease was very prevalent. The type in Polish Russia being extremely malignant. With the exception of Russia the smallpox tendency seemed to be subsiding throughout the various countries of Europe. In Great Britain and the German Empire where laws for compulsory vaccination exist the disease has at no time, in the past two years, been beyond the control of Health Officers, and the advantages of a National Central Sanitary Organization has been fully evidenced.

In the United States whose National Board of Health has no power, except on the call of local and State Boards, the disease up to the 1st of January, 1882, had appeared in Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Virginia, Georgia, Mississippi, Louisiana, Texas, Ohio, Indiana, Illinois, Missouri, Wisconsin, Arkansas, Minnesota, Michigan, Iowa, Nebraska, Colorado and California. The doctrine of State Rights was never more plainly asserted than in the bill organizing the National Board of Health. Under this bill the Board has had neither the opportunity nor the power to prevent the disease becoming so wide spread. With our Atlantic City quarantines carelessly managed in the East and the San Francisco quarantine little better managed in the West, the United States must continue to expect the importation of all the epidemic diseases of other climes until such a time as the people are wise enough to perceive the advantages of a National Board of Health and National Sanitary Laws. Had compulsory vaccination been enforced by the United States Government the 15,000 cases of smallpox occurring in 1881 might have been prevented.

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[1] Imported from Chicago by a lady supposed to be suffering from malarial fever.

[2] Imported from San Francisco, Cal.

[3] Imported from Chicago.

[4] Imported in infected corpse in Keokuk Medical College. Epidemic among students. The disease was afterwards carried to eleven different towns in Illinois, along by members of the class.

During the year 1881, over 4,000 deaths were reported, the principal mortality being distributed in the following cities:

Philadelphia	1319	deaths.
Chicago	822	"
New York	453	"
Pittsburg	444	"
Hudson Co.	202	"
Richmond	144	"
Wilmington	118	"
Allegheny	108	"
Brownsville	65	"
Cincinnati	59	"
San Francisco	47	"
Louisville	18	"
St. Louis	3	"

The epidemic tendency will undoubtedly became wide spread throughout the West and South, before the winter of 1883, and Cincinnati, Louisville, St. Louis, Nashville, Memphis, Vicksburg and New Orleans will feel the full effects of the present epidemic wave which traveled from the north-east to the west, and now exhibits a tendency to travel south-west.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of January 16th, 1882.

THAD. A. REAMY, M.D., *Pres't in Chair.* W. H. WENNING, M.D., *Secretary.*

Complications in Vaccination.

Dr. Drury called the attention of the Academy to the importance of vaccination at the present time. It was, however, more with a view of deriving than imparting information that he would give his own as well as the experience of some of his professional friends when he mentioned a few of the troublesome complications that followed the practice of vaccination. The speaker recently saw a case of vaccinia roseola in a patient that had been vaccinated in the Health Office ten days previous. The localized sore was the size of a quarter, a deep ulcer surrounded by vesicles. The arm was swollen from shoulder to hand and an eruption which lasted three or four days was scattered all over the body. Other physicians in his neighborhood, as Drs. Brown, Jones and Wallingford, had similar cases. Dr. Brown had several cases of roseola vaccinia, Dr. Jones said he had a few days ago opened two large abscesses, the result of vaccination from points, besides treating another most disagreeable and alarmingly severe case of erysipelas following the same cause. Dr. Wallingford who, as district physician, had made many vaccinations, mentioned two cases where the sore had a core underneath it and was almost gangrenous, accompanied by a most severe inflammation which extended from the shoulder down to the hand. All these complications followed after the use of points charged with bovine virus.

A most troublesome complication is eczema. Besides those cases of bulla, forms of exudative erythema, urticaria, herpes, etc., have been described by Behrend in the Archives of Dermatology as the result of vaccination. The speaker had never had such formidable results with humanized virus to which he gave the preference. His method of vaccination had been that usually practiced, namely, removing a portion of the scarfskin by scraping it off, not so much however as to draw blood, for if the bleeding be extensive it is apt to prevent the virus from entering the system. Furthermore he had a great deal more difficulty in securing a *taking* of the vaccination with bovine than the humanized virus.

Dr. Hyndman said his experience had been quite the contrary. Since the outbreak of smallpox he had made nearly four hundred vaccinations with bovine points obtained from Cleveland and Massachusetts, and in no case had he any unfortunate result. Formerly, while using the humanized virus, he had had many failures but since using the bovine he could recall but two or three failures in primary cases. In about four primary cases he observed large sores following the bovine virus, but these subsequently healed and gave no further eruptive troubles. He would admit, however, that he never saw such large sores resulting from the humanized form.

Dr. Ravogli remarked that he had vaccinated many persons with points obtained from Boston but never had any bad results. Roseola vaccinia is not a severe complication and will last but two or three days. Only in one instance did the pustule give rise to a large sore, but this was due to the irritation caused by the patient's wear of flannel. In a few days, however, the trouble was all over. He would call attention to the fact that some clinicians, *e.g.*, Dr. Buck, of New York, have reported a number of cases of inflammation of the middle ear following vaccination.

Dr. Juler said that when he first learned to vaccinate in London, students were taken to the smallpox hospital and the greatest care was bestowed upon the manner of vaccinating as well as the condition of the lancet. A law in England compelled the vaccination of every child before the expiration of three months. Consequently mothers would bring their children on a special day in the week to be vaccinated. Other children who had been vaccinated a week previous were brought on the same day and a mother could choose the child from whose arm she desired hers to vaccinated—subject, however, to the approval of the physician. Thus every case was seen again on the same day of the next week; and if the vaccination proved successful a certificate was signed that the requirements of the law had been followed. If the vaccination was performed at the residence of the child a fee was allowed.

In all these cases that were thus vaccinated from arm to arm with humanized virus, he never saw an abscess or erysipelas result. A slight eruption on the skin and exceptionally eczema followed in other parts of the body. In this latter affection it is a question of interest if the fever following vaccination did not so far lower the nervous tone so as to starve the innervation of the skin and thus give rise to eczema. A child ought only to be vaccinated when in good health. Unfortunately when inoculating the humanized virus we must in most cases resort to the filthy habit of using the *scab*, a method much inferior to the inoculation of *lymph* from arm to arm. The speaker had not used the bovine virus as he preferred to see what would be the result of its use in the hands of other practitioners. There is no doubt that it has given startling results. Several medical gentleman in Covington have told him of its bad results: abscesses, erysipelas, eruptions, etc. One gentleman purchased four bovine points with which he vaccinated a woman; the virus took so well that the patient was not able to use the arm and yet afterward had confluent small-pox. He also vaccinated a barber who was syphilitic; the virus took and when mature the barber offered his crusts to the physician for sale, which, of course, the latter declined. Subsequently he was called to treat a woman with a very sore arm who had been vaccinated from this scab. There is a slight possibility syphilis was inoculated by this means.

Much depends on the condition of the lancet, which, if not properly cleaned and sharpened, may cause trouble by its irritation.

Dr. Thrasher said he used the bovine virus except in a few cases where the humanized was desired. In but two cases did he see anything else than uncomplicated forms of vaccinia, except a little more severe than with the humanized form. In the instances referred to there were pustules in different parts of the body but more particularly on the part vaccinated. One gentleman, a German, 40 years of age, had been vaccinated in Germany when a child and was now revaccinated with the bovine virus. Everything went well until the eighth day, when, following an exposure the day previous, he complained of severe pain in the back and neck with a temperature that evening of 104.5°, next morning 102°, in the evening 103°, the following morning 101°, evening 100 and then normal. The pains were described as severe as in small-pox. No other symptoms except a pustular eruption on the left side of the face (corresponding to the arm vaccinated), one of which was unibilicated, the others not. A child three years of age had one pustule on the face and two or three on the body, was sick two or three days and after that gave no further trouble. In two cases primary vaccination failed. One case had been vaccinated with humanized virus three months previous to the insertion of the bovine form and both took. In one instance varioloid followed a successful vaccination, but revaccination after this gave a negative result.

Dr. Wenning remarked that this subject was just now of such importance that every member present should contribute his mite to elicit facts for or against vaccination. The speaker had for the last eleven or twelve years used humanized virus alone with the best results until a year ago when, being out of human virus, he resorted to the bovine. He had then vaccinated a child with the humanized virus, but probably on account of the age of the crust, with a negative result. He then tried the bovine virus furnished by the Board of Health with an equal result. Finally he purchased a point from a druggist in the city and vaccinated successfully. The child, a healthy strong infant, passed through a course of very severe local inflammation. The scab of this child was used and in many instances was followed by bad results. One child had severe erysipelas, another induration and abscess of the cervical and maxillary glands, which are not yet altogether healed, and so on. So confident was the speaker of the good health of the first child and favorable family history that he intended to use the scab on his own child at the time, had the latter not been accidentally unwell. It was singular that these results should occur after the first remove from the bovine virus. At the present time he used the animal virus chiefly on account of the strong prejudice in the community against the humanized form. Although he had no unfavorable results so far he found that it was much more difficult to get it to take even in primary vaccinations. It could not be the method of vaccination because he had tried all, abrasions and incisions, with equal result. The following instance may be of interest in this connection: The speaker vaccinated recently over fifty children in a private reform school, the majority of which were primary, with points of bovine virus prepared from the fresh lymph cone. Before he completed the vaccination, beginning with the youngest, his points gave out and the remaining eight older girls, from twelve to fifteen years of age, were vaccinated with the humanized virus; *all* of these took well in a few days, whilst all of the younger children vaccinated with the bovine virus began to take in the *third* week after vaccination. The method employed was the same in both, namely, removing the scarfskin.

It is the speaker's opinion—and such had been his practice—that if a physician is careful in propagating the virus himself in families whose history he is familiar with, the humanized form is the better. We are bound to accept the word of the manufacturers or propagaters of bovine virus for the reliability of their article. Moreover the fear of imparting constitutional disease is for the most part exaggerated. In answer to the objection raised against the human virus on account of the liability of inoculating some constitutional disease he would like to know if by using bovine virus we do not run as great a risk of inoculating a disease to which the animal may be subject.

Dr. Reamy remarked that in view of the fact that efforts are being made to secure compulsory vaccination in this State through the Legislature, and that the chairman of a committee for this purpose was a member of the Academy and present at this meeting it was high time for this society to declare their position on this subject and be prepared through its representatives to meet all objections that may be urged against compulsory vaccination. As for himself he was an advocate of such a regulation and a firm believer in the protective power of vaccination. Nevertheless unpleasant results have been numerous of late and the laity has been fully aroused to their recognition, which may frustrate the very object desired unless the medical profession shall be prepared to meet the objections and convince the legislature of the practicability of a law enforcing compulsory vaccination. The speaker's own experience since using the bovine virus was not satisfactory. Five or six cases of unpleasant results occurred in his own practice, ten or twelve in that of Dr. Mitchell, besides the information of numerous similar results obtained from other physicians. A clergyman had been frequently vaccinated without having any cicatrix. Recently he was vaccinated by Dr. Mitchell with bovine virus; on the second day the inflammation ran high, on the seventh it was most extensive, showing severe local as well as constitutional symptoms; on the eighth day erysipelas was well marked. After the subsidence of the erysipelas regular pustules, fifteen to twenty in number, not differing greatly from smallpox were found on the arm and chest. Although the vaccination was performed on December 13th, 1881, the wound is still unhealed, the sore which originally had the size of a silver dollar became a deep slough with the appearance of gangrene but is now filling up gradually with granulations. Similar results he had seen in four or five other cases.

The speaker had formerly, until the last two years, used humanized virus but never had such fearful complications. Now what is the cause of this change? Is the virus as obtained in the market imperfect or an inferior article? Cow pox is generally believed to be the same as smallpox in the human, the difference being only in soil. The best form is said to be to inoculate a cow with smallpox which would give us the genuine vaccinia, of course all know that the disease likewise occurs in the cow spontaneously, but the propagation is severally from cow to cow.

When inoculation was practiced in 1700-1706, in Constantinople the mortality rate from smallpox by inoculation became very low, but two to four per cent., whereas the mortality from epidemic smallpox was frightful. Now the difference must have been due solely to the preparation of those upon whom inoculation was to be practiced, diet, air, etc., or to some modifying influence consequent upon the manner of introducing the poison. He supposed in the former condition we must look chiefly for the difference in results, still, we cannot say positively. No one knows who introduced inoculation; an extraordinary omission; but so low was the mortality of those inoculated, as compared with the mortality of those contracting the disease under epidemic influence, that the originator of inoculation, could his name have been preserved, should be held in memory almost as sacred as that which makes Jenner immortal. Indeed were it not for the danger of spreading smallpox by contact with the inocculated, inocculation might to-day be quite as popular as vaccination.

But coming back to the results obtained after bovine vaccination, as compared with those from humanized virus, the speaker could not consent fully to the explanations given by the gentlemen who had preceded him. He believed that the protection afforded by bovine virus is no greater than from humanized virus, and unquestionably in revaccinations at least, the local and constitutional complications are far more violent from the former than from the latter. The theory advanced by Dr. Whittaker that the difference in results is due to the difference in soil and not seed, is plausible, and is the opinion of most writers, but yet doubtful in its full application to these cases. Is it possible that the speaker's cases in which he used the bovine virus and obtained such unfavorable results in so large a per cent. should be accidentally individuals of bad constitutions, when in hundreds of cases vaccinated with humanized virus he had only three or four bad results? In reply to the argument that it might be the mode of vaccination, the abraded wound causing more irritation and liability to infection than the incision, he would say that when he used the humanized virus he invariably scraped off the scarfskin, to the avoidance of shedding much blood—not thinking, however, that the flow of blood would wash away the virus, but that it was more likely to take. With the bovine virus, however, in all except five or six cases, the speaker made small parallel incisions with the ivory point. He used no plaster as he found when using the human virus that the sore became more ugly with than without it. Consequently the result cannot be due to the mode of vaccination alone. If the violent results should alone be found to be due to bovine virus, as bovine virus, the speaker would be forced to object to its use and advocate humanized vaccinia. If we are to use the latter we must give guaranty that it is pure which is difficult. The best virus must be obtained 1, from healthy young children, and 2, the process should be performed from arm to arm on the eighth or ninth day.

The dangers of communicating syphilis in private practice are not great. In France vaccinations have been made from syphilitic persons and yet there is no proof that syphilis was propagated in this way. In England not a single case of syphilitization has been detected in 100,000 vaccinations performed in London. If the lymph be taken from a child there can be no question of imparting syphilis, except in the hereditary form which no one will believe. It is not likely for a child to have syphilis in any other form than hereditary, except it be by infection through a wetnurse. And even if syphilis exist in the worst form in an individual the lymph procured from vaccine pustules on such person is not the true virus of syphilis. True it has been demonstrated in France that when a person who is inocculated with the syphilitic virus and vaccinated with vaccine virus will run through the course of vaccinia first and syphilis afterwards, but in no instance has this disease (syphilis) been propagated except by the introduction of the syphilitic virus itself. And the syphilitic virus will not be found in the lymph of vaccinia, even in a syphilwill place the Army Medical Museum and Library in a secure position. Medical men do not ask much, nothing in fact for themselves, but now when we appeal to Congress in the name of science and humanity, in the name of those who are to be wounded and suffer in coming conflicts, in the name of those who are now suffering, in the name of those engaged in active pursuits most liable always to accidents, in this disinterested and unpersonal appeal we should certainly be heard.

The Committee on Public Buildings in the Senate are: Rollins of New Hampshire, Morrill of Vermont, Cameron of Wisconsin, Jones of Florida, Vest of Missouri.

House: Lewis of Illinois, Cutts of Iowa, De Mott of Indiana, Scranton of Pennsylvania, Ford of Missouri, Smith of New York, Cook of Georgia, Hewitt of New York, Singleton of Illinois, Herbert of Alabama.

Letters to these gentlemen and to other members, Senators and Representatives, would doubtless receive respectful attention. Physicians in all parts of our broad land should take a personal as well as professional interest in this urgent question. W. W. DAWSON, M.D.

Cincinnati, 3rd and Broadway, Jan. 29, 1882.

Selections.

MEDICINE.

THE TREATMENT OF SYPHILIS.—Since syphilis has been recognized as a disease, mercury has been trusted to as the chief remedy. Mercury has been called by some a vital antidote to the syphilitic poison. Dr. Farquharson, in a recent work, says of mercury in its relation to syphilis, that "it may be considered a specific, or, at least, a vital antidote." It is a source of wonder to me how medical authors can use such vague phrases regarding drugs, when no such thing is at present known as an antidote to a vital poison.

Mercury is now said to have the effect of increasing the red corpuscles of the blood, and thus benefitting the anæmic condition found in syphilis. Mercury, however, does not increase the red corpuscles in non-syphilitic anæmia; so that if it does so in syphilitic anæmia, it must be by a specific action on the poison. This, there is no evidence for believing. In the so-called tonic treatment mercury is given with the utmost precaution. Even its physiological action is deprecated, care being taken, by means of astringent mouth-washes, to prevent the gums getting sore. A minute dose is given in a guarding tonic vehicle, and the most careful local and hygienic treatment employed, and this is continued for from two to four years. In Mr. Lane's *Lectures on Syphilis*, second edition, 1881, although a staunch believer in the efficacy of the mercurial treatment, he makes the following extraordinary statement regarding it: "There are two classes of patients in which the abstention from mercury may be advisable: first, those who are in sound health and capable of throwing off the morbid influence without assistance; and, secondly, those in broken-down health, or in whom there is an evident strumous or consumptive tendency, which may render it desirable, if possible, to dispense with a mercurial course." The patients in the first class have to do without the benefits of mercury because they are too strong to require it; those in the second class have to do without it because they are too weak to stand it. The poor debilitated creatures in the second class have peculiarly hard measure meted out to them. Suffering from syphilis, they are now in a position to have their thin blood transformed into a healthy fluid by that wonderful red corpuscle manufacturer and specific tonic, mercury. But just because this class of patients require all the assistance drugs can give them to enable their debilitated frames to throw off the syphilitic poison, Mr. Lane denies them the benefits of the drug which is still most widely approved of for the cure of their disease. This seems to me a thoroughly illogical position for mercurialists to hold.

Nearly twelve years ago, I was led to discard mercury in treatment of syphilis; since then I have steadily practiced the non-specific treatment of syphilis, and by watching the course of many cases for a length of time, have come to the conclusion that is the best method, and the one least likely to be followed by gummatous complications. believing that the anæmic state of the blood and the depressed condition of the vital powers (which certainly occur during the course of syphilis) can be quite safely combatted without mercury, I have trusted entirely, in the treatment of this disease, to the blood-forming and tonic medicines which are found useful in similar conditions of the body in other diseases.

Syphilitic Chancre. The sore will be found to behave very much the same as other ulcers do under similar conditions when submitted to rational treatment. Caustics are rarely necessary, and should only be applied when they will assist the process of healing. I hold with Ricord that the appearance of the chancre is the first indication that the blood is contaminated by the syphilitic virus. When necessary to apply nitric acid for surgical reasons, a plan has been suggested by Dr. Keyes of placing first a drop of pure carbolic acid on the sore, and then drying the surface with blotting paper before applying the stronger acid, the well-known anæsthetic properties of carbolic acid making the subsequent application less painful. Excision of the chancre to prevent constitutional infection has not been found successful, for reasons stated above when speaking of cauterization. Water dressing or any ordinary astringent lotions may be applied according to indications. Boracic ointment and iodoform are also useful applications, more especially the latter. It is best to apply iodoform in powder, and if it were not for its persistent smell it would be very generally applicable. The addition of tannin, to lessen the smell of iodoform, makes little difference. By these simple means the worst form of chancre will heal, although it may be necessary also to give tonics to improve the condition of the patient. In the lymphatic engorgement which

Correspondence.

MEDICAL AND SURGICAL LIBRARY AND PATHOLOGICAL MUSEUM AT WASHINGTON, D.C.

Editors Lancet and Clinic:

It would be hard to overestimate to science and humanity the value of this collection; it would not be extravagant to say that this Army Medical Museum and Library are unequalled in many respects in any country, and yet no adequate means have been adopted for protection and preservation.

LIBRARY.

Some idea of the Library may be gained from the fact that the first volume of the Index Catalogue contains 888 double-column pages and includes 9,090 authorities representing 8,031 volumes and 6 398 pamphlets, 9 000 subject-titles of books and 34,604 titles of periodical articles. Only the letter A is exhausted and a part of B. From purchases, exchanges and donations 51,500 volumes and 57,000 pamphlets have been collected. Surgeon General Barnes well says, "Their destruction would be an irreparable loss not only to the United States, but to the world." Many books could be duplicated, others however could not be replaced; these volumes contain especially the cotemporary history of our own times, whilst they embrace most of what has heretofore been written. Our period is characterized by the number and excellence of its periodical literature. In estimating the value of such work it is only necessary to reflect upon the difficulty of tracing the history of a surgical operation performed during the last or even early part of the present century; now, novelties, discoveries, new plans, original suggestions and practical improvements find their way at once to the profession through reports, clinics, essays and lectures; to illustrate, who can trace the history of Ovariotomy? What was the inspiration of Ephraim McDowell? John Bell did not publish his clinical lectures, nor did he record for publication the secrets of the "dead room," he may however have shown to our intrepid countryman an autopsy, revealing an adhesionless cyst with a small pedicle, but no evidence of such fact is anywhere to be found. But to return to our subject proper. This invaluable library does not contain everything which has been written in our own and other languages but it is well nigh complete. The Index Catalogue reflects great credit upon the ability of John S. Billings, M.D., and when it is finished any book, essay or paper can be found in a moment.

THE DANGER.

Think of such a treasure being exposed in an unsafe and non-fireproof building, subject to the casualities of a metropolis where conflagrations are by no means uncommon. Again the building is not large enough, nor arranged for the purpose, does not even afford shelf-room; books are packed in rows, double rows, and even stored in boxes! The 60 000 physicians in America ought certainly to be heard through their representatives on this subject.

PATHOLOGICAL MUSEUM.

More than a million men in conflict furnished the material for this matchless collection, the field, the bivouac and the hospital contributed to it; in injuries of bones it is especially rich, showing in hundreds of instances the influence of conservative and destructive inflammation. Surgeon General Barnes, in his report for 1881, states that there are 22 000 pathological illustrations. Such a collection has never been seen and may never be duplicated. Where are they, what has been done for their preservation, for presenting them so that they may be utilized for science, for the good of mankind? They are literally stored in an old insecure building, now trembling under too much weight. "The walls of the 10th street building are not only weak but much out of plumb." (Surgeon General Barnes Report, 1880). Great as is this danger, the hazard is intensified by liability to fire. By no means in themselves fireproof they are surrounded by buildings the most inflammable. What would be the loss were these contributions destroyed? Incalculable, it could not be measured. To the physicians in charge the sound of the fire bell must be fearful. In 1875 a fire occurred in the neighborhood, and these buildings were saved by the exertions of employees of the Museum. Specimens illustrating pathology of soft parts are mostly preserved in alcohol, which increases the danger still further in a building not fireproof.

THE REMEDY.

A building which, according to the estimates of the Surgeon General, will not cost more than $250,000 should be erected. It is desirable that the attention of physicians should be called to the peril of this Army Medical Museum and Library. They of all citizens know the value and appreciate the contributions which have and which will be made to the science and art of our profession. The volumes containing the "Medical and Surgical History of the War" which have been published challenge the admiration of the learned in all lands.

Two members of the Ohio delegation are on the Appropriation Committee, Major Butterworth and General LeFevre. Major Butterworth, from his culture, will doubtless take a liberal view of the matter. Gen. LeFevre is justly one of the most popular members of Congress. Popular because he is able and indefatigable in his work. He is closely connected too with medicine, having a brother and brother-in-law honored members of the fraternity; taking a deep interest in all subjects involving the public weal, and having already visited and inspected the buildings and made himself acquainted with the wretched condition, he will doubtless present the matter forcibly to Congress.

A hearty support now of the Surgeon General by the profession will save these treasures and itic child, except as a rare accident. It has been attempted repeatedly to communicate syphilis by the introduction of blood from children suffering of congenital syphilis, but always with negative results. The speaker only mentioned these matters to show how improbable the communication of even syphilis by vaccination, and yet he would freely confess that since it has been proven possible the greatest caution should be exercised. He had frequently met with strong objections on part of patients to whom he had recommended milk diet, that tubercle and other dreaded diseases are communicated from the cow to man. So much is said in favor of such notion by the press and by the profession. And yet Virchow, at the head of a committee, investigated with the greatest care every fact connected with the whole subject in the district where the proof was alleged as most conclusive and the cases most numerous, reports that not a case was proven. The speaker fully agreed with the opinion that the eruptions which follow vaccination are dependent upon conditions already in the patient, and such facts should be clearly stated to the laity by every physician when opportunity presents.

The speaker's observations verified well known opinions that subjects of revaccination are far more prone to bad sores than those primarily vaccinated. This was far more striking after bovine than after humanized virus. He would not be understood as pronouncing against bovine virus. Still he did not think its protection greater and certainly its effects are far more violent. The speaker would oppose a law that compelled its use, excluding humanized virus.

Dr. Whittaker observed that the subject of vaccination was so extensive that the discussion ought to be limited to the original question as put by the reporter of the case. Vaccinia differs from other diseases insomuch as it is brought on intentionally; nevertheless it is an infectious disease—a modified form of smallpox. The presence of an eruption ought not to excite particular surprise as any acute malady that depends on a blood poison is more or less followed by an eruption of some kind, as *e.g.*, in typhoid fever the rose spots, in cerebro-spinal meningitis the characteristic spots which have given it the name the spotted fever, etc. Indeed it is a surprise that an eruption is not seen more frequently in vaccina. There is no difference in the protective powers of humanized and animal virus and any peculiarity that arises in an individual after vaccination must be attributed to the individual and not to the virus used. *It is the soil and not the seed that causes the trouble.* Scrofula, syphilis, phthisis, etc., all tend to give rise to complications. Most of the usual complications are over in a few days. Erysipelas must have a trauma for its cause and it is immaterial whether a break in the skin giving rise to this disease is done by vaccination or inflicted in any accidental manner. It is just as reasonable to hold vaccinia responsibie as the real cause of erysipelas as when a man takes a glass of water goes into the street and is struck by a falling brick to hold the water responsible for his accident. The immunity of vaccinia against smallpox is settled and in face of the facts furnished by history it is culpable to throw any doubt on this point. This immunity does not last for a life time, seven years is said to be the limit of absolute protective power. Even smallpox itself is not a safeguard against disease. It is well known that although Louis XV. had smallpox in his youth, he succumbed to the disease at the age of 64. This is a rare curiosity. It is also singular that the evil consequences were not observed in the time of Jenner. Compared with the disease variola itself, these complications are trivial. As said by the Secretary, people compel us to use bovine virus; and in answer to his question if we might not just as well inoculate some animal disease, the speaker would reply that is just what we attempt to do when we vaccinate, but no other disease, except vaccinia, has been thus communicated. Nor is it likely that we can inoculate other diseases when vaccinating from humanized virus. If we simply use the vaccine lymph in syphilis (which is the disease most dreaded), we are not as liable to inoculate this disease as with the blood. Nevertheless a physician incurs the risk of being arraigned and perhaps punished for inoculating syphilis.

As regards the method of vaccination, simple incisions with the points themselves are sufficient. It is not necessary to draw blood as it is not this fluid that takes up the virus, but the lymph which lies very superficially. Moreover an abraded surface causes a greater wound and is therefore more apt to give trouble than an incision. The irritation is more likely to cause an abscess which heals slowly. It is the speaker's method to cover the incision with plaster to prevent the access of air and thus to shield the wound from disease.

Jenner's first observations were all made with animal virus and inasmuch as the introduction of either produces the same disease, vaccinia, there can be no essential difference between them. Had it not been for vaccination this city would now be depopulated. Anybody who knows anything about the two diseases would rather have syphilis than smallpox, but with bovine virus there is no excuse for vaccinal syphilis. In the speaker's opinion the man who opposed vaccination nowadays, should be confined in an asylum as a lunatic or in jail as a public malefactor.

Editors Lancet and Clinic:

I see it stated that if the carotids be exposed and surrounded by hot water that thermal dyspnœa will follow. If this be true would not an "ice collar" be more appropriate than the "ice cap" in cases where the latter is indicated. A lump of ice might be bound over each carotid. This would certainly reduce the temperature of blood going to the brain. Respectfully, T.A.P.

Wilderville, Tex., January 10, 1882.

A **Warning to Duel Surgeons.**—Mr. Justice Cave, in a recent case, gave it as his opinion that a surgeon who attended a duel to prevent a man from dying was to be held equally guilty with the person who fired the shot, because, by his mere presence, he forwarded the duel.—*Med. Press and Circular.*

accompanies the syphilitic chancre, suppuration is rare, and even when it seems most imminent it is well to refrain from using the knife, as it is often astonishing how resolution may take place even when fluctuation is seemingly distinctly felt.

In a case of indurated chancre with multiple adenopathy it is necessary at once to prepare the patient to resist the depressing effects of advancing constitutional syphilis. In order to get well over this tedious and often severe illness, a high state of bodily health has to be maintained, the most scrupulous cleanliness practiced, to keep regular hours, eat plainly, take stimulants in very moderate quantities and only with meals, and to give up the use of tobacco absolutely. The state of the mouth should be carefully attended to. Among some of the first symptoms of constitutional syphilis, appearing often before any skin eruption, are periosteal swellings and bone pains of a more or less transient character, the pains being worst at night, and having a tendency to subside on the development of the skin eruption. For these symptoms iodide potass. in gr. x. doses is useful, but only as directed against the bone and periosteal symptoms, and not as having any special reference to this so-called secondary stage of syphilis. I believe iodide potass. to be practically useless for the relief of any symptoms occurring during the secondary stage, except those above referred to.

After these preliminary symptoms, which are not constant, come the eruptions of the skin and mucous membrane, falling off of the hair, affections of the nails, eye, etc. There is now invariably a tendency to aæmia, with depression of vital power, and to obviate these conditions is the chief aim of treatment. Any influence mercury may possess over the superficial symptoms of early syphilis is, I believe, entirely due to its local action as a skin stimulant, whether it be given internally or applied externally, and that it has no specific action on the poison itself. The treatment I find very successful in secondary syphilis is by supporting the general health, administering tonics, especially iron, when required, and insisting on careful attention to hygienic rules. By these means a gradual and certain recovery will be brought about. Local treatment is useful for the sore throat and mucous patches occurring within the mouth at this stage. Astringent gargles, with occasional touching of the patches with nitrate of silver, assists the healing. The moist papules or condylomata found between two skin surfaces and in the neighborhood of the vagina and rectum merely require cleanliness and dryness for their removal. Dryness may be secured by the careful dusting of the part with fuller's earth, kaolin, starch, or such like substance.

In tertiary syphilis, or the stage of gummatous deposits, iodide potass. is found to be of immense benefit. It may be combined with tonics, carbonate ammonia, and codliver oil, when these remedies are indicated. Gummatous tumors are treated as follows: 1. Do not remove gummata either by the knife or caustic. Abstain from opening a gumma even when fluctuation is present, as resolution may occur at any stage of its progress. Examples abound where gummata on the point of opening have been seen to diminish and become absorbed under iodide potass. 2. Give iodide potass. in large and increasing doses, beginning with gr. x. thrice daily. The production of gummata is often combined with a low state of the organism, either anterior or foreign to the diathesis, or engendered by it, for which tonics and codliver oil should be administered. In the early stages blistering is found to be a useful adjuvant to the internal treatment. After gummata have opened and formed ulcers, ordinary surgical principles must be our guide. The same lines of treatment are to be followed in congenital syphilis.

I wish to say a few words with regard to the preventive treatment. The reduction of venereal disease can only be brought about by a law which would act equally on men as well as women. Let an Act be passed making it penal for any person knowingly to infect another with venereal disease. Conviction, no doubt, would be difficult; but the knowledge of the existence of such a law would have salutary effect.—Francis Cadell, F.R.C.S., Ed., *Edinburg Medical Journal*, December, 1881.

THE BLOOD IN CHLOROSIS AND PREGNANCY.—From the examination of the blood in twenty-two cases of pregnancy and in seven of chlorosis, made with Hayem's chronometer, Dr. Frederick Willcocks draws the following conclusions:

1. That a more or less considerable diminution of hæmoglobin is found in both pregnancy and chlorosis, especially in the latter, but that beyond this fact no obvious analogy exists between them.

2. That in pregnancy the diminution of color is due to a fall in the number of red cells, and that the individual cell remains of high value. In chlorosis both the cells and the individual value are reduced, the latter being in excess of the former.

3. That the blood-state of healthy pregnancy is due to a larger relative increase in the water of the plasma, and that this condition does not constitute a true anæmia, but is due to the progressive enlargement of the vascular area during pregnancy.—*Lancet.*

SURGERY.

RESECTIONS OF THE PYLORUS.—At a meeting of the Clinical Society of Vienna, held Dec. 16, 1881 (*Allg. Wiener Med. Zeitung*), Dr. Wölfer presented a woman upon whom Hofr. Billroth had performed, two months before, a resection of a carcinomatous pylorus. The steps of the operation were similar to a previous case in so far as the pylorus was not at once separated, but the posterior opening in it was previously united by suture to the stomach. The operation lasted an hour and fifteen minutes. Microscopic examination showed the tumor to be an adeno-carcinoma, but there was as yet no cancer elements in the neighboring lymph-glands.

Dr. Wölfer also presented the woman upon whom he operated in a similar manner eight months before. Up to the present there has been no indication of a return of the growth. Her digestion is in perfect order. J.M.F.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, February 4th, 1882.

Miscellany and News.

ACADEMY OF MEDICINE.—Dr. P. S. Conner will give a dissertation on "Gunshot Wounds of Joints" at the next meeting, Monday, February 6th, 1882.

ARABIAN SUPERSTITIONS IN REGARD TO THE COCCYX.—In a work of M. Bertherand on medicine in Algeria there are detailed the peculiar views of the Arabians, and the importance they attach to the coccyx. It was said by Mohammed that all the bones of the skeleton waste away in the ground with the exception of this one. This bone, the first made by God in the construction of the human skeleton, is also the only one which resists the destructive action to which the others fall a prey after the death of the individual, and finally, at the judgment day, the bodies of those who have lived are built up from the coccyx. The rains of forty days, which precede the day of judgment, cause these bones to germinate, they being a kind of osseous germ destined to reproduce all the other parts of the body, as the seed produces the plant.

The same book gives some details of the pleasures which await the just in Paradise, which show the esteem in which certain pharmaceutical preparations are held by the Orientals. "The just shall drink from goblets filled with a camphor mixture," says the Prophet. "They shall also have to quench the thirst a potion made of ginger, and there will be handed to them goblets of wine scented with musk."—*Journal de Med.*

DR. TANNER OUT-FASTED. — The following extraordinary tale of fasting reaches us through an authentic source from India, in which an eye-witness describes the appearance of a religious mendicant of the Jain caste, who has just completed a ninety-one days' fast at Palanpur, on the last days of the penace:—The "saint," says the writer, underwent a fast of eighty-six days last year, and has been more or less accustomed to this form of infliction. When seen on the ninety-first day of the recent fast, his abdomen had so much subsided as to form the shape of a pit; the veins were much swollen, and he seemed to speak only with great effort. He was seated on a blanket in the corner, and near him the sour water of curdled milk, which he sometimes drank. He seemed, however, to be capable of physical exertion, and up to the last day procured the curdled milk water for himself. He was all along engrossed in prayer, and held no communication with other men, except on religious topics. The man has spent his life in strict asceticism, and has denied himself all food and luxury, save what might be got from the milk water, bread, and yellow rice. His bedding consists of an ordinary blanket, and nothing more. Many Jains undergo penances in the shape of fasts and other self-inflictions, but it is said that this man's efforts in this direction are unapproached by even his most devoted co-religionists, and he has drawn to himself a large following of Sharawaks. Unlike Dr. Tanner, however, he accepts no presents and no fees.—*Med. Press and Circular.*

DOCTORS IN SCANDINAVIA.—In his delightful work, "The Land of the Midnight Sun," M. Paul du Chaillu speaks of the high esteem in which medical men are held by the people of Scandinavia, and describes the neatness and refinement which he observed in their homes even in remote country districts. Throughout Scandinavia there are *distrikts lægs* (doctors of a district), who receive yearly a certain amount of remuneration from the State, varying according to places; for the population is so scattered that, were it not so, large tracts of country would be left without medical help, for doctors could not make a living. The fees they receive are regulated by law according to the distance traveled from their residences. Hard indeed, is the life of country doctors, especially of those whose districts are on the fiords or by the seacoast. The only way of locomotion they have is by boat.

Often they have to sail or row some twenty or thirty miles or even more, and encounter all sorts of weather, and great praise is due to them for the lives of self-denial they lead. There is a health officer for each province, besides one for each parish or district, and the former are especially charged to look after the public health and take precautions necessary to prevent the spread of epidemic diseases.

MEMORIALS OF BROCA.—By the generosity of the widow of the late M. Broca, the eminent French anthropologist, a prize has been instituted, to be awarded by the Society of Anthropology, of Paris, for researches bearing on the subjects with which the name of Broca is inseparably associated. The last work undertaken by the deceased *savan* is completed in the current number of the *Revue d'Anthropologie*, edited by Dr. Topinard. The subject of this paper is "Torsion of the Humerus," and it includes a complete description of the *tropometor*, an instrument for determining the torsion of bones. Tables compiled by Broca, with the assistance of M. L. Manouvrier, and relating to the angles of torsion of the humerus in man and other animals, are given in the work, and consideration of all the facts gathered in it led to the conclusion that torsion attains its greatest amount in man, but in the case of the negro its condition is intermediate between the more highly developed races and anthropoid men, a not unexpected deduction. Some Oceanic tribes are described as being inferior to negroes, in the same way, and the transition from the human being to the larger anthropoids is an insensible one. The smallest angle observed in man is less than the smallest angle. however, observed in sixteen humeri of gorillas, a fact which does not invalidate the general law enumerated above, for this is exemplified in the fact that comparison of the gorilla with other large anthropoids yields a larger angle for the former, while the latter again possess a greater angle than that ascribed to smaller monkeys. Insensible gradations again mark the passage to carnivorous animals; and one curious fact elicited by a large number of examinations is that the angle is all but invariably greater in the left humerus than it is in the right.—*Medical Press and Circular.*

BEEF-TEA AND URINE.—It is rather a novel idea that in taking a cupful of beef-tea we are really drinking what is equivalent to a cup of urine. According to M. Masterman, however, who not long since published a chemical analysis of beef-tea, the two are as alike as may be, only that urine appropriately contains more urea and uric acid. And now comes Dr. Neale, of London, who has been, apparently, in the East Indies, and not only assures us that urine is used as a vehicle for (less agreeable?) medicines, but that, "as a stimulant and general pick-up, I have frequently seen a glass of a child's or a young girl's urine tossed off with great gusto and apparent benefit."

Reduced to straits, we presume we might so use it, but we confess that, usually, "as a stimulant and general pick-up," we mightily prefer the other form of the cup that cheers but does not inebriate.—*Medical News.*

ABSENCE OF VERMIFORM APPENDIX.—Dr. F. A. Bailey, (*Proc. Oregon State Med. Society*) describes the case of a girl aged 13, who was seized with severe abdominal pain accompanied with obstinate constipation and vomiting. The most active treatment failed to act on the bowels. She died in eight days. On examination, no evidences of inflammation were found in the intestines. "All the abdominal viscera presented a healthy appearance, with the exception of about two inches of the ileum, commencing at its junction with the cæcum. The intestinal canal at this place was completely occluded, the walls being adherent. The specimen I herewith present for examination. Here may also be seen a remarkable malformation of this part of the intestine; so marked, indeed, is this, as to be scarcely recognized as the junction of the large and small intestines. There is no appendix vermiformis, nor does the small intestine join the large at the angle usually seen. The only difference here observed, and by which the ileum is distinguishable from the cæcum, is a difference in size, and that is much less marked than is usually the case. The ileo-cæcal valves, too, as may be readily observed by turning the specimen inside out, are merely rudimentary and not developed to a normal extent." — *Pacific Medical and Surgical Journal.*

DR. CRISP, speaking before the Pathological Section of the recent International Medical Congress, related the following incident: In 1829, he was a student in Paris, and while going round the wards with Dr. Biett, then a physician to the hospital, his instructor's curiosity was excited respecting a book he was carrying under his arm. This happened to be Bateman on "Skin Diseases," and having examined the plates with which the work was embellished, Biett briefly remarked, "they would make excellent patterns for a carpet manufactory!" Are we so far advanced at the present day that the same description will not with equal justice apply to delineations of diseased conditions in certain handbooks as much used now as Bateman's was in 1829?—*Medical News and Collegiate Herald.*

CASE OF FICTITIOUS HIGH TEMPERATURE.—Dr. Stephen Mackenzie reports a case in a *neurotic* woman, æt. 42, in whom the temperature rose to 120°. The patient subsequently acknowledged that she had caused the high temperature by poultices, hot bottles, etc., which she used with sufficient cleverness to elude the vigilance of her attendants.—*Med. Times and Gazette.*

THE INTERNATIONAL MEDICAL CONGRESS transactions will be ready for distribution in December. To non-members the price will be $7 40. Each of the three volumes can be bought separately. Volume one will contain the list of members, accounts of the general meetings, the general addresses, description of the museum specimens, and the transactions of the sections on anatomy, physiology, pathology, materia medica, and pharmacology. Volume two will contain the transactions of the sections in medicine, surgery, obstetric medicine and surgery, and diseases of children. Volume three will contain the transactions of the sections of ophthalmology, mental diseases, diseases of the skin, of the throat, of the ear, and of the teeth.

ILLEGITIMATE BIRTHS IN SCOTLAND.—The return of the Registrar-General of the births, deaths, and marriages registered in the divisions, counties, and districts of Scotland for the quarter ending September 30th, contains some curious information. In the North-eastern divisions the illegitimate births were 14·6 per cent; in the counties of Nairn, Elgin, Banff and Aberdeen, they were respectively 15·15, 18·8, 13·8 per cent. These are just the parts of Scotland from which Dr. Begg, Principal Rainey, and other shining lights of the free church, draw their majorities in crushing Dr. Robertson Smith, and other heretics. There seems to be some occult relationship between great religious fervor and morality of a very questionable kind.—*Med. Press and Cir.*

ANOMALY — FOUR TESTICLES. — Dr. Cebeira presents a singular case—a soldier with venereal chancres, buboes, etc., and a scrotum having four distinct testicles—two in each sac—of different sizes. The supernumerary testicle of each side was above the other. The venereal diseases of the patient seemed to be in proportion to his testicles.—*Revista de Catalima.*

IN honor of St. Joseph Labre, the pilgrim of Boulogne-sur-Mer, who with three other saints was canonized with such magnificence and ceremonial on the 8th, ult., in St. Peters's at Rome, the Catholic University of Lille has founded a chair in the Faculty of Medicine and endowned it with 100,000 francs. — *Medical Press and Circular.*

THEODOR SCHWANN died on January 22d at Leyden at an advanced age. He was one of the founders of modern histology and his name is inseperably connected with that science. As long ago as 1838 his researches on the animal cell appeared, and although his views were found on subsequent investigation to be erroneous in some respects, still he helped to clear the ground for other investigators. His name will be handed down in connection with the anatomy of medullated nerve fibres, to one of the elements of which he called particular attention, and which in honor of him has been called "the white substance of Schwann." For many years he held the position of professor of anatomy in the University of Leyden.

BACTERIAN ANTHRAX IN CATTLE. — M.M. Arloing, Cornevin, and Thomas have investigated the well-known immunity of adult cattle from bacterian anthrax in the infected districts. They ascribe this immunity to a gradual and infinitesimal vaccination which they have undergone, since aged cows and oxen, from districts where anthrax is not common, if brought into an infected part of the country succumb as readily as calves.—*Medical Press and Circular.*

THE NEW ANTISEPTIC LISTERINE.—Dr. P. V. Schenck, Surgeon in charge of the St. Louis Female Hospital, makes the following report:

"I can speak highly of the results of the use of Listerine, as far as my experience has gone, which has been as follows:

"As a deodorizing dressing for cancer, as a detergent gargle in diseases of the throat, as a vaginal injection where the lochial discharge is purulent or the odor offensive, and also as a disinfectant for the hands in the clinic and operating room.

"I shall use it hereafter as above indicated, and to the exclusion of carbolic acid."

HORSFORD'S ACID PHOSPHATE.— Dr. J. C. Wilson, of Philadelphia, says of this preparation: "I have used Horsford's Acid Phosphate as a general tonic, and in particular in the debility and dyspepsia of overworked men, with satisfactory results.

Philadelphia, March 14, 1881.

Bibliography.

BRUEN'S PHYSICAL DIAGNOSIS.[1]

We could not expect much that is new in a book on Physical Diagnosis. There is scarcely a field that is connected with medicine so well surveyed, and in which we have to deal so exclusively with facts, as this one. From the time of the enthusiastic Læenec to the present little has been discovered with regard to the physical sign of disease of the thoracic organs, and the methods for their detection remain much the same. The books that have been written are, as a rule, complete and vary chiefly in the arrangement and manner of treating the subjects. Why, then, it would naturally be asked, should a new book be put upon the market? To this the author's modest reply is, that "It is offered to the students of bedside diagnosis and clinical medicine, in the hope that it may be of assistance in welding together information gleaned from didactic lectures and reading, on the one hand, and that obtained from bedside study on the other hand," the subject being 'treated in as simple and practical a manner as possible." Although the book contains more than 250 pages, it is bound in so compact a form that it can readily be carried in the pocket. But what especially recommends itself to us is the arrangement of topics and the clear and masterly way in which they are handled. There is no "book making" and the least possible repetition.

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[1] A Pocket Book of Physical Diagnosis for the Student and Physician. By Dr. Edward T. Bruen, Physician to Philadelphia Hospital, Demonstrator of Clinical Medicine and Lecturer on Pathology of the Urine, in the University of Penn'a, etc., etc. With Wood Engravings. Philadelphia: Presley Blakiston, 1881. Cincinnati: Robert Clarke & Co. Price, $2.00.

In introduction the author devotes ten pages to the normal positions of the thoracic and abdominal organs, together with the more important of the changes in the abdominal cavity which may influence physical diagnosis. Fourteen chapters are then devoted to the lungs and pleura, and twelve to the heart and pericardium. Throughout the book, the various topics are indicated by side-head lines in heavy faced type so as to increase the facility of reference.

In our opinion the book answers admirably all the requirements indicated by its title. J.M.F.

Obituary.

WM. T. BROWN, M.D.

Action of the Miami Alumni.—The Alumni Association of the Miami Medical College held a meeting at the College Building Jan. 27th, at 3 o'clock, P.M., to take action on the death of their former ex-President, Dr. Wm. T. Brown.

A large number of gentlemen were present, among whom were some of the most prominent physicians in our city, and many of whom had been warm, personal friends of Dr. Brown.

Dr. Brent having stated the object of the meeting in some well-chosen remarks, the following gentlemen were appointed to draft appropriate resolutions: Drs. Stanton, William B. Davis and L. A. Shepard.

Remarks, very highly eulogistic to the memory of the deceased, were made by Drs. Brent, Bigney, C. P. Judkins, L. A. Shepard, William Judkins and William B. Davis.

Each gentleman spoke of the high regard and esteem with which Dr. Brown was held, not only by physicians, but people at large; of his self-sacrificing duty to his patients, and the high and noble example he had left after a life of such great usefulness, and which was so worthy of emulation.

The Committee on Resolutions presented the following, which were adopted:

It seldom falls to our lot to mourn the loss of a man whose death leaves such a chasm in our Society as does that of our brother, Dr. Wm. T. Brown.

He entered the Miami Medical College in 1854, and in 1857 took the degree of M.D., at the age of twenty-one years. While a student in College he sustained the character of a most devoted and enthusiastic student of medicine, and enjoyed the respect of all his class-mates.

After graduation he remained one year in the St. John's Hospital as one of the resident physicians, on leaving which he engaged in the practice of his profession in this city, where, by his assiduous attention to professional duties, together with his good judgment, he was soon introduced to a general practice, which was limited only by his inability to attend to it, if further increased. The faithful discharge of the duties incumbent on the physician, and his close application to study laid the foundation for the disease which cut him off at the time when he should have been at the meridian of his usefulness.

In all the relations of life he was most exemplary. As a man he was affable and courteous, ardent and faithful in his friendship. As a physician he stood high with all who knew him. Not satisfied with distinction in a single department of medicine, but soaring far above mediocrity in all.

He was a strong enemy of quackery, with which he held no terms, under whatever garb it presented itself. A wife and two children remain, to mingle their tears together, as they realize the greatness of their loss, and to them we tender the condolence and sympathy of this Association.

Resolved, That in the death of Dr. Brown the Alumni Association of Miami Medical College has lost one of its most honorable members, the community one of its most accomplished and successful physicians, and the medical profession one of its most beloved and distinguished members.

Resolved, That while deploring his loss we will emulate his virtues, and enshrine his memory in our hearts.

Resolved, That a copy of these preambles and resolutions be sent to the family of the deceased, and another furnished the press for publication.

Dr. Bigney was authorized to procure a floral tribute as an offering from the Society to the memory of their deceased friend and brother.

Resolutions Adopted by the Cincinnati Medical Society.—At the regular meeting of this Society the following resolutions were adopted:

While we bow with submission to the will of an all-wise Providence in taking from our midst our beloved brother, Dr. W. T. Brown, we must express our sorrow for his loss, our admiration of his character and our thankfulness for the example of his life; therefore

Resolved, That in the death of Dr. W. T. Brown each one of us has lost a warm personal friend; that this Society has lost an honorable, active and earnest member; that the medical profession has lost a member who was ever ready and able to uphold its purity and honor, and to extend its benefits with equal cheerfulness to rich and poor; that the community in which he lived has lost a citizen who was always fearless in support of the right, and whose hand never withheld what duty or charity demanded.

Resolved, That we extend our sympathy to the members of his family, who are mourning the loss of a husband, father, son and brother, the depth of whose tender affection could not be sounded.

Resolved, That a copy of these resolutions be sent to his family, and that they be published in the medical journals and daily papers of the city.

WILLIAM JUDKINS,
THOS. H. KEARNEY,
W. H. MCREYNOLDS, Committee.

Lectures.

REMOVING SILVER SUTURES AFTER OPERATION FOR LACERATED PERINEUM.—RESULTS.

A Clinical Lecture delivered at the Hospital of the Good Samaritan.

By Thad. A. Reamy, M.D.,
Professor of Obstetrics, Medical College of Ohio;
Gynecologist to the Hospital of the
Good Samaritan.

[Reported by James M. French, M.D.]

Gentlemen:

This is the patient upon whom I operated in your presence nine days ago for laceration of the perineum with prolapsus of the posterior vaginal wall. She is brought before you to-day for the purpose of removing in your presence the sutures. This is a matter of some importance, I trust therefore that you will notice particularly the methods employed in its accomplishment. You will also notice the parts before the sutures are removed. The slight cutting of tissue at the point of insertion of each suture is in this case what usually occurs. It only involves the skin and superficial tissues and is due partly to the fact that at these points tension is much greater. When the wires have assumed almost a circular or hoop form, as they do, the cutting usually ceases. The removal of the wires, when you have learned how to do it, is quite simple: nevertheless I have seen it so bunglingly done as materially to damage the repair. This damage is especially liable to occur under two conditions; 1st, In all cases where the laceration involves the rectum (complete laceration). 2nd, In cases where the sutures are removed within four to eight days after operation. When they are allowed to remain twelve to fourteen days of course the union is firmer and more difficult to injure. In any case where the cutting of tissue by the wires is progressive after these few days, especially should there be undue inflammation with marked discoloration of the parts, the sutures should be either removed or cut and allowed to remain. I have in several instances under such conditions cut each alternate suture near the twist allowing them to remain until the usual period for removal. In one case where the laceration involved the recto-vaginal septum for some distance, I had placed the sutures quite close together drawing them possibly rather tightly. The appearance of the parts indicating serious obstruction to the circulation, I cut every suture on the morning of the third day after the operation, cutting on alternate sides of the twist from below upward, allowing the wires to remain after cutting undisturbed until the twelfth day after insertion. The result in the case was perfect. As you know, I now use No. 24 wire whereas formerly I employed No. 26 and often 28. This may partly account for the good results in the above case, since such wire will hold its position with considerable firmness even after it is cut. If you will notice closely when these sutures are removed the parts involved will spread out, the lines of tissue on each side near the points of insertion will separate considerably altering the depth and form of the gutter materially, this shows the degree of tension to which the wires are subjected by the inclosed tissue. Conversely it shows the degree of tension to which the line of coaptation, the new tissue would be subjected but for the support of the wires. Thus you can appreciate more fully the value of my recommendation, that ordinarily you will allow the sutures to remain twelve to fourteen days, until firm union has occurred. When these wires are removed I will pass them around when you will observe that with exception of the upper one, which in its middle was uncovered, lying in front of the posterior vaginal wall, they are as bright as when they were inserted. No suppuration along their track occurring. They are unirritating after the slight cutting already spoken of has occurred. Thus you have an explanation of why leaving them in position longer than is recommended by most authorities can do no possible harm. You observed when this operation was done, that instead of inclosing the twisted ends in a piece of gum catheter, after Emmet as I formerly did, I simply twist them all together, cut the united twist off an inch and a half or two inches from point of union and turn the end down upon itself, then bend the twist up at such an angle as to avoid the couch upon which the patient lies. Before attempting removal we will wash out the vagina and wash the external parts, by syringe, with warm water. We will also as a first step cut the twist off half way down, so that the twist of each separate wire may be to itself, otherwise traction can not be made of each wire in the direction from which it was inserted, which is important. You see I push the scissors down and cut one arm of the wire as far from the twist as possible, and then before attempting withdrawel cut off what remains close up to the twist, this makes the hoop to be drawn out shorter, with a section out of it, therefore much easier of removal, and it also prevents the jagging of the tissues. As I withdraw the wire holding the twisted end with my fingers instead of using a forcep, the parts are likewise supported by the thumb and fingers of my other hand compressing gently the tissues toward the line of union, no injury can occur. The wires are all removed, examine them and see that they are bright, as I promised they would be. When they are bright on removal, you have in this alone proof of perfect union. In this case notice how perfect has been the result. By removal of the redundancy in the posterior vaginal wall at the time of this operation, and denuding well forward and up each vulvar wall we have secured not only a perfectly restored perineal body, but the axis of the vagina to its normal relations. So simple a thing as removal of sutures after perineoraphy might seem to some as beneath the dignity of clinical prerogatives, not so in my estimation. You have seen me make the operation of Perineoraphy so frequently in this amphitheater that I fancy most of you could do it cleverly should opportunity offer. You have now been instructed how to remove the sutures quite as important in its way. Successful gynecology necessarily involves thoroughness in minor as well as in major details. It is my desire to have you thorough. In order that additional strength to the perineum and posterior vaginal wall may obtain, and that the uterus may remain for a longer time in its present elevated position, to give additional strength to all natural means of support to that organ, this patient will be allowed to remain in bed most of the time during the next two weeks. She will be permitted howevar, to sit up at short intervals and even to walk about the ward a little. She will be directed not to separate the limbs to any great degree, and the vagina will be kept washed out twice daily with a solution of borax and warm water.

RESULTS.

A few words as to results from the operation which was made in this case. You will remember the denudation extended fully to the crown of the bulging forward which marked the prolapse of the anterior rectal and the posterior vaginal wall, and introducing the sutures, five in number, these parts were included as a part of the perineal operation proper. As a result the narrowing of the vagina is thorough its whole length, instead of being simply at the orifice. Thus as above named we have not only given increased firmness and strength to the whole vagina, with diminished capacity, but the restoration of the vaginal axis angle to near 120° to the axis of the uterus. A moments reflection will convince you of how much more efficiently we have thereby provided against further uterine prolapse than if the operation had extended only to the upper portion of the so-called perineal body. Moveover, as this patient is comparatively young, it is not of little moment that we have thus restored the vagina to the power of executing properly other physiological functions peculiar to the marriage state.

But the question arises is this woman cured? Will the prolapsus which had already reached the second degree be arrested as a result of our operation? To answer these inquiries fully would require more time than we have at our disposal and would lead us beyond the field intended to be occupied in the present lecture. In brief—we may say however—she must be greatly improved. Very important malign conditions, those for the present, producing most serious inconvenience, have been removed, but others will be only indirectly influenced by the operation. An examination of the os and cervix made at time of the operation, as you will remember, discovered a varicose condition of the cervical vessels with absorption of cervical tissue, a common result of long continued prolapse. The retention of the uterus in its proper position, with proper local treatment, will improve, but not cure, this altered state of the cervix. It is incurable. The padding of fat, outside of the vaginal walls, in the areolar pelvic tissue constitutes an important element in normal uterine support. This padding is often absorbed in old women, admitting of prolapsus. Our patient has not suffered this change at all, which is greatly in her favor. Subinvolutionof the vagina is an invariable attendant of long continued uterine prolapse, not always a primary cause but becomes an additional element for increasing the difficulty when it already exists. In the present case, this subinvolution was well marked, but its bad effects are almost completely overcome by the operation.

It was pointed out by Legendre that, in consequence of tension of the broad ligaments in extensive uterine prolapsus, the hypogastric veins are so compressed as to produce congestion of the uterus as well as of other organs. This explains why the uterus, thus displaced, usually enlarges under chronic hyperæmia. Where, as a result of this condition, areolar hyperplasia occurs no treatment, so far as I know, can reduce the uterus to its normal condition. It must wait until the period of senile atrophy arrives. Nevertheless, congestion will sometimes exist for a long time without areolar hyperplasia ensuing. I do not believe that it has occurred in the case before us so far as the body is concerned. If therefore the uterus can be retained in position, an d other favorable influences for promoting free venous circulation can be brought to bear, we may confidently hope that the slight enlargement may to a great extent subside. As before stated, the most important, and the most serious, changes are in the cervix. Obstruction to the venous circulation of the uterus manifests itself so much more readily in the cervix than in the body of this organ, that while the latter may simply be in a state of congestion, the former has already undergone the irremediable changes pointed out. To further involution of the uterus, the patient will receive during the next five or six months ergot and strychina.

In experiments made by Dr. Savage, upon the cadaver, it was clearly demonstrated that the subperitoneal pelvic cellular tissue which surrounds the uterine blood vessels, aids materially in preventing uterine descent. When from any cause the uterus has been long in a state of prolapse, this means of support must be to a great extent lost, even should the uterus, as in the present case, be restored to its position. But if the restoration, by mechanical or other means, should be continued for a considerable time we might fairly hope for some improvement in the lost power of these structures. We can not however hope for much in that direction in the present case; which must be interpreted as standing seriously against its permanent cure. We must also remember that the utero sacral and utero-vesical ligaments, the former however being the most important, have by the displacement, been so long upon the stretch and have yielded to such an extent as to render them for all time deficient in their power of support. This is against our patient. The extent to which the utero sacral ligaments have been damaged in the present case has further interpretation when you remember the rectal prolapse which was demonstrated; for you know that these ligaments, arising from that portion known as the junction of the body and neck pass backward bifurcating and surrounding the rectum before they are lost in the subperitoneal cellular tissue over the lumbar vertabræ, thus rendering it impossible that prolapsus of the rectum be associated with uterine prolapse without irreparable damage to the sustaining power of these ligaments.

Atony of the thoracic and abdominal muscles, so often found in those who lead idle and sedentery lives, remaining much in-doors, deprived of free exercise in the open air.—Also in those who indulge in the barbarism of tight lacing corsets and abdominal bandages greatly favors uterine displacement. None of these evils have been indulged in by our patient nor do their results exist. Her thoracic and abdominal muscles are in a fine state of developement. These facts are in her favor.

To sum up—in answer to the question propounded, we may promise to this patient great relief, comparative comfort, but not a complete cure. It may be we shall find it necessary in the future to aid support by a properly adjusted pessary. Not to be done however until it is found a necessity. Should this necessity arise, the pessary can now find a base of support, whereas before it could have done no good at all for want of it.

This hasty examination of existing facts, and their influence upon the future of the case, has been made in order to teach you an important lesson, viz: Never promise more from an operation than can truthfully be warranted. Thus you will retain justly, the confidence of your patients, enlarge the usefulness, of your skill, promote the dignity and honor of your profession.

Dr. Horatio R. Bigelow, of Washington, D.C., is preparing a paper on ovariotomies performed in America, and will be glad to receive full reports of all such cases.

Original Communications.

TOBACCO AMBLYOPIA.

S. C. Ayres, M. D., Cincinnati, O.

It is seldom that we ever see a case of pure and uncomplicated tobacco amblyopia. The use of tobacco and spitits are so generally associated that their poisonous effects are diffused through the system simultaneously. We frequently see cases of amblyopia from chronic alcoholism but all of them were consumers of tobacco to a greater or less extent. The resulting effect is attributed to the toxic influence of alcohol, and the *role* that tobacco plays is almost lost sight of. This is natural enough for the toxic influences of the former are so much more powerful than the latter that they get the credit of doing the damage. Men do not abuse themselves with tobacco as they do with spirits for it does not produce the same degree of exhiliaration, still its continued and excessive use will help to undermine the system and deepen and confirm the effects of alcohol.

Mr. Jonathan Hutchinson reported in the Royal London Ophthalmic Hospital Reports (1872) a number of cases of tobacco amaurausis. They were cases that had been under his observation for a long enough time to enable him to form a positive and decided opinion as to the final results. He attributes the amblyopia to excessive smoking and shows from his cases that the failure in vision was coincident with an increased indulgence in tobacco. Some of the smokers were also drinkers, but the toxic effects of tobacco were considered as more potent. This was evidenced by the fact that 75 per cent either recovered entirely or were greatly improved after quitting the use of tobacco. In his opinion, total abstainers from alcohol were more liable to trouble than those who used spirits moderately—the alcohol seeming to counteract the poison of tobacco. He also observed that ofter the recovery of vision his patients were again able to resume the enjoyment of their pipes in moderation without detriment to their eyes.

I am disposed to think that tobacco amblyopia is very rare in this country. Alcohol has, undoubtedly, been the leading factor in all the cases of toxic amblyopia I have seen. The two factors are generally associated and there is usually excess in both.

The following case I report as the only one of the kind which has ever come under my observation. It proves one point, that tobacco can seriously effect vision, and there is abundant evidence from other observers that atrophy of the optic nerve does follow its excess as well as that of alcohol.

In this case the patient was not a smoker but a chewer of the weed. In Hutchinson's cases the use of tobacco by smoking only is mentioned and the same is true of cases mentioned by German writers. This arises from the fact that chewing is not nearly so common abroad as it is in this country.

I have never seen any statistics which mention excessive chewing of tobacco as a cause of amblyopia which makes this case one of interest. There seems to be no good reason why chewing should not be as injurious as smoking. The contact of tobacco with the mucous membrane of the mouth is as promptly, if not more promptly felt in the brain as the effects of smoke from a pipe or segar. Then, too, men can chew where they would not be allowed to smoke—as for instance at their work-benches and in places of business where there would be danger from fire, or objection to the odor of smoke.

Mr. E., æt. 50, a tall, slender man, but healthy and well preserved for one of his age. He had led a temperate life in all things but indulgence in tobacco. He was not, and never had been addicted to the use of intoxicating liquors, and smoked very seldom.

He had recently noticed a mist before his eyes, and had difficulty in recognizing his friends, and vision had failed so much that he could not read ordinary print. His sight had failed decidedly within the past few weeks and he had at last became alarmed. He was in the habit of chewing ordinary plug tobacco and used from one to two ounces daily.

Examination showed his vision to be $\frac{20}{100}$ r. e. and $\frac{20}{70}$ l. e. The ophthalmoscope showed a healthy fundus with the exception of the optic discs which were congested, and resembled those of a person suffering from chronic alcoholism.

I determined to try the influence of hypodermic injection of strychnia and gave him $\frac{1}{30}$ gr. in the arm. In the afternoon about four hours after the injection his vision had increased to $\frac{20}{40}$ r. and $\frac{20}{30}$ l. e.

The next day his vision had not diminished and a second injection was given which brought his vision up to $\frac{20}{30}$ in the right eye, the left remaining as it was yesterday.

He had to return home and was ordered small doses of strychnine three times daily to be continued until his return.

In twelve days he again presented himself and it was found that vision was $\frac{20}{50}$ r. and $\frac{20}{20}$ l. eye.

The vision in the right or weaker eye had sunken a little but the left had not lost anything. He could now read ordinary print with ease and recognize objects and persons in the distance very well. The haze before his eyes had vanished and objects were clear and distinct. Another hypodermic injection of strychnine was given but it did not improve the vision appreciably. He returned home and continued the internal use of the nervine for several weeks.

He quit the use of tobacco from the first day of treatment and has not since indulged in it.

It is now three years since the above treatment and he still maintains good vision. He has gained considerably in flesh and enjoys good health.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of January 23d, 1882.

THAD. A. REAMY, M.D., *Pres't in Chair.* W. H. WENNING, M.D., *Secretary.*

Dr. Ravogli read the following essay entitled

The Skin an Organ of Touch.

When last I had the honor of speaking to you we considered the skin affected by papules, pustules or crusts, having manifest signs of material alteration; to-day I call your attention to the skin, apparently healthy, but perverted in its most delicate function, the sense of touch:

A large series of sensations belong to the sense of touch, and according to Aristoteles we can divide them into general and special sensations. Among the general sensations is classed the sensation of space (Latin, *spatium*), which is common to the organ of touch as to the organ of sight. The general sensation of extension gives us a knowledge of the form and location of objects.

Sensations, as you know, are objective and subjective; the objective being produced by external homologous or heterologous stimuli, while the subjective arise from excitement existing in ourselves, acting on the nervous sensitive apparatus or upon some portion of the encephalon. The subjective sensations, as the objective, are not different in their entity, because the nerves always reproduce the sensations proper to them.

Sensation, although consisting only in a change in the state of the nervous sensitive apparatus, we are accustomed to refer to the external world, in that we consider the sensation as property of the external object. In consequence it happens that by the insane the slightest sensation on the skin is ascribed to the presence of insects or animals not actually present—hallucinations of sensibility. It is in fact peculiar to this organ that we refer the sensations to some portions of our body or to the external object exciting the sensation.

The sensitive nerves have their maximum of impressibility at their periphery. By the irritation of a nerve trunk we refer the subsequent sensation to the place where we are accustomed to receive impressions. In performing an amputation of a limb the cutting of nerves causes the patient to feel pain on the extremities of their ramifications. And it is remarkable that some years after the amputation the sensations are referred to the missing limb in consequence of the irritation of the severed nerve trunks.

Sometimes when subjected to the influence of various sensitive stimuli we are not enabled to receive distinct perception of them. In such a case the perturbation of the mind, or the persistence of a monotonous stimulus has very much to do in distracting the attention. That which causes the distinct perception of any one sensation is the concentration of the attention on it.

In the physiological state the organ of touch receives two kinds of sensation, viz.: that of pressure and that of temperature. These sensations increasing in degree and passing the limits of the normal produce a new kind of sensation which is pain. For this sensation there is no single encephalic organ, but many central nervous organs are established. This opinion is sustained by the observation that some portions of the skin lose the sense of pressure, the sense of temperature remaining intact; in the same way parts of the skin being completely insensible to the impression of pain maintain unaltered the sense of pressure and of temperature.

These observations showing that the sense of pain is separate from the sense of pressure gave rise to the idea of the existence of a special kind of nerves, which were called the nerves of painful sensation.[1] It was believed that the sensations of the most delicate nerve fibres were separate, like those of their trunks, proceeding without commingling till reaching the brain. Therefore in a region receiving through anastomosis different nerves, if one of them be paralyzed, the sensibility of the region is not entirely lost, and the points capable of feeling are just those corresponding to the primitive fibres remaining intact. Pathology sustains this opinion: an individual having been affected for a long time with anesthesia of the inferior limbs and being unable to perceive weight, pricking. etc., will feel cold in the feet, electricity and the presence of a piece of ice, which produce a burning sensation on the anesthetic skin. (Tommasi, Physiology). Another affected by hemiplegia, retaining the sense of touch in the paralyzed hand, was unable to perceive heat. One hysterical woman presented a case of hyperesthesia to heat on the scalp, retained the natural, but numbed, sense of pressure and insensibility to pain.

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[1] Sussana, Fisiologia del dolore. Milano, 1860.

In the present state of science we should not be justified in admitting the existence of different nerve fibres for each separate sensation, unless their presence be demonstrated by experience.

It is also interesting to note that two tactile impressions, acting contemporaneously on the skin, produce two distinct sensations, causing the idea of extension. In the same way two tactile impressions stimulating the cutis one after the other at rapid intervals are perceived as distinctly separated and gives us the idea of time, sense of time.

E. H. Weber profited by this fact in determining the acuteness of the sense of touch in different regions of the body. Two points of a compass at a certain distance are perceived as two separate points, but on diminishing the distance between them, the skin ceases to receive the impression of two separate points, the sensation being that of one only, or as would be produced by an oval shaped object. The sensitiveness of touch varies in the different parts of the body, as for instance, on the lips the points of the compass, only one line apart, are felt distinctly separate, while on the thighs at the distance of seven lines are scarcely perceived as separate.

I cannot stop long to refer to the studies of Weber which determined precisely the differences of feeling power of the different regions of the skin, nor to the different opinions of the physiologist on this subject; it is sufficient for me to have recalled these studies of Weber, being of great diagnostic value in determining the different degrees of cutaneous anesthesia.

In regard to the sense of pressure, it is necessary to remark that this peculiar feeling is also common to the underlying muscles and ought to be distinguished from the sensation of the skin. The sense of the muscles helps us to recognize the weight of objects, weighing them in our hands. That explains the case observed by Eigenbrodt, that a patient with a cerebral disease was able to distinguish an object weighing 30 loths from another of 32, while he could not perceive one of 5 loths in his hand. The reason of that we find in the elimination of the sense of pressure on the skin, this feeling remaining constantly in the underlying muscles.

After these short physiological reflections on the organ of touch, we shall pass on to consider its functional alterations. You understand that in speaking of functional alterations, I do not mean to include under this head the vasomotorial alterations, which produce structural trophical changes on the skin with objective lesions of the surface as in zoster, urticaria and so many skin diseases which in their elementary forms follow the course of the underlying nervous ramifications. Here we speak only of those disorders in the normal sensibility which are of a strictly functional character depending upon an altered state of the nervous system, and manifesting itself in the sensitiveness of the skin, pure neuroses of the skin, called by Auspitz *Idioneurosen*. (System der Hautkrankheiten, Wien, 1880).

We can group these affections in two principal divisions, viz: those where the sensibility is diminished till it ceases entirely—anesthesia; and those where the sensibility is exaggerated or perverted—hyperesthesia (Algia).

Anesthesia.—This is characterized by the diminished sensibility till it is absolutely wanting. As above mentioned, to the sense of touch belongs the sense of pressure, the sense of temperature and the sense of pain. In consequence anesthesia varies greatly in its degrees. It is complete when a cutaneous region is absolutely unable to perceive external stimuli in the different varieties of sensation. Generally the anesthesia is not complete; while the sense of pressure may be wanting and the sense of pain remains, or as it happens in anesthesia induced by chloroform, the sense of pain is suppressed (analgæsia), the sense of pressure remaining so that the surgical cut is perceived only as a strong pressure made upon the skin.

In the majority of cases anesthesia is limited to particular regions, sometimes being uni-lateral, at other times symmetrical.

Anesthesia is caused by an interruption of the function of the sensitive centripetal nerves, depending upon alterations either in its last ramifications or in the course of its trunks, or in the substance of the centra. We considered above how the sense of touch has not only one nervous centre, but many centres, which change the tactile impression into sensation, in order to be perceived by the brain. Indeed, the tactile sensibility has connection with the reflex movements more than any other sense, and many of its centres must have this location in the spinal cord. If without our knowledge a cold hand is applied to the face, we involuntarily withdraw, before having an idea as to the sensation excited.

A kind of idiopathic anesthesia is more commonly produced by external agents, able to suspend the vitality in the extremities of the nervous ramifications. To those agents belong all which are capable of producing local anesthesia, as cold, freezing mixtures, carbolic acid, chloro form, ether, caustics, etc.

The anesthesia observed in the most frequent cases is generally produced by internal nervous disorders, and especially by hysteria.

Anesthesia hysterica.—It happens with hysterical women, that some points of the skin and seldom the whole surface of the body lose the sensibility of touch. The cutaneous regions more easily affected by anesthesia, are the upper parts of the hands and feet, spreading at the forearm and the leg, sometimes observed on the scalp, and on the trunk and the face. More frequently the anesthesia affects just one entire side of the body, as if the two halves of the body were vertically divided by an antero-posterior plane.

The anesthesia can be complete, leaving the skin without feeling and indifferent to all stimuli, so that the sticking with needles or burning it, is followed by no sensation. These cases formerly aroused superstition and were regarded as miracles.

I do not intend here to go on considering this protean disease hysteria, and all the morbid affections of the nervous system, grouped under the name of sonnambulism. I shall limit myself to speak about the want of feeling, anesthesia of the skin by hysteria. In order to throw some light on the origin of hysterical anesthesia, I beg a few moments attention to some observations that anesthesia may be artificially produced.

The discovery of the fact that a powerful magnet repels a piece of wood, and causes a leaf to take an equatorial position between its poles, produced considerable surprise; but it was equally astounding to see the nervous phenomena excited by the presence of a magnet on sensitive individuals. Applying an ordinary magnet to the back of the hand of an individual subject to the influence of magnetism, in the course of three or five minutes he feels formication around the space occupied by the magnet, formication which spreads to the finger, gradually rising to the scapulo-humeralis joint, reaching sometimes to the forehead and the occiput. To this formication is added a sensation of numbness on the whole arm followed by difficulty in moving the limb. At this point there is a remarkable diminution of sensibility on the surface of the skin, as regards sensation of pressure and of pain.[1] The sensibility is scarcely demonstrated with the compass of Weber.

A local effect on the feeling of touch is observed in the temporary interruption of the hyperesthesia proper to some regions of the body, as the armpit, the palms and soles, where the slightest contact causes reflex movements, more or less extended and impossible to restrain. The application of a magnet for five to ten minutes to these places susceptible to tickling is enough to diminish it, till the touch of a feather can be supported without signs of exaggerated sensibility.

The experiment has the same result if the magnet is rubbed on the place, as in the process of magnetizing a bar of steel.

After these considerations we will try to explain the origin of these anesthesiæ. Have they their seat in the nervous central organs in consequence of aberration of the power of perception, or have they their seat in the nerve fibres leading the impression in consequence of their defective nutrition? Or does it depend on the suspended vitality of the great number of the nervous ramifications representing on the skin a large disjunct surface enabled to gather in all its points the impression of the stimuli?

The external tactile impressions follow their path in the posterior spinal nerves, and in some sensitive ramifications of the cerebral nerves. The greatest part of them reach the medulla as the great condensator; the impression arrived at the medulla causes directly reflex movements limited or diffused, or reaches the bulbus, exciting automatic motions, or is lead into the brain, causing voluntary actions.

In most cases of hemianesthesia caused by lesion of the centres, as endocephalic hemorrhage or *rammolissment*, the abolition of sensibility was permanent, as permanent and irremovable as was the cause. In our case the symptom is changeable, so that the insensible limb may regain its feeling, while the other remains anesthetic. Furthermore, the anesthetic or analgesic regions are able to transmit to the centres the magnetic streams, undergoing themselves modification. Charcot recently observed a case in a hysterical woman affected by hemianesthesia, which proves my thesis. These are the words of Charcot:

"Nons approchons du bras anesthetic le point néutre de cé barran aimante. Quelque temps que nores attendions il ne se manifeste rien; mais sans que la malade s'endoute retournons l'aimant et presentons u bras le deux póles de l'aimant; au bout de quelques minutes, voici que la sensibilité est revenue a ganche, mais en revanche elle á disparé a droite et nous ponvins maintenant perforés le bras droit que tont a l'heure la malade retirai au moindre contact."

If the anesthesia were the effect of a deep lesion existing on the central organ, be it the ophtic thalamus, or the corpus striatum, or the crura cerebri, it could never leave one region to affect another.

We can physically explain the fact observed, by applying the theory of the inversion of the poles that happens in magnetical induction. You know, that approaching together the homonimous poles of two loadstones the one of the two having stronger power changes the polarity in the weaker loadstone.

The same action is produced by the magnet on the sensitive extremities. It is well established to-day in recent physiology, that the nerve is capable of receiving the electric polarization, and in the same way it is influenced by the magnetic polarity, while the electric and magnetic polarity are two normal and similar actions. In the polarity of the nervous cells the latent power of acting and determining the muscular movements exists.

Therefore, if the application of the magnet is able to restore the decreased sensibility on the anesthetic regions, depriving the homologous space of the opposite limb of its sensation, it must necessarily act on the sensitive nervous extremities, increasing their life. The anesthetic restitution caused by the magnet being so rapid, we cannot maintain that its action can be induced by chemical changes or by augmenting the trophic process. We can therefore hold the idea of a dynamical influence, changing the directions of the nerve cells through an immersion of the polarity.

In conclusion, the hysterical anesthesiæ being changeable, cannot have a central permanent origin, but rather depends on an altered dynamism in the last nervous ramifications. The alteration can be explained by the inversion of the polarity of the nerve cells, which are no longer capable of leading the impression of the acting stimuli. The magnet being able to produce an inversion of polarity in the nerve cells, its application can be of benefit in that form of cutaneous anesthesia caused by hysteria.[1]

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[1] Maggiorani—Influenza del Magne and tismostulla vita animale. Rapoli, 1880,

Anesthesia Syphilitica.—A peculiar form of anesthesia appears sometimes in the secondary stage of syphilis. The first accurate description of it was given by Fourniér The anesthesia in these cases is not complete, but reveals itself more frequently on the sense of pain as analgesia.

Fourniér described three varieties of syphilitic anesthesia. In the first place he considered the simple ornalgesia, where the patient, having the sense of pressure and of temperature intact, remains quite indifferent to the pricking of needles on the skin. A second form he called analgesia with anesthesia, where the sense of pressure is wanting, together with the sense of pain. The last form mentioned by Fourniér is the analgesia with the loss of the sense of temperature; in that case the patients are unable to recognize cold water from hot water, and also do not feel the presence of a burning object.

The extension of the seat of this alteration of sensibility is various; sometimes it extends over the whole cutaneous surface, so that the sticking of the skin in many points of the body produces no pain; sometimes it is limited to circumscribed regions, to the feet, hands, forearm and legs. Fourniér observed syphilitic anesthesia more frequently on the backs of the hands, where it remained more obstinately. This anesthesia appeared in the first months of the secondary stage of syphilis, from a few weeks' to four months' duration.

The observation of this anesthesia in the secondary stage of syphilis, its appearance with the other syphilitic symptoms with which it proceeds and disappears, gave rise to the conclusion that the syphilis is the real cause. All the cases observed by Zeissl were in women.

Other form of anesthesia are produced by more serious causes, the affections of the nervous centre. In Tabes dorsalis (ataxia locomotrix), the diminution of sensibility is one of the precursory signs of this terrible disease. The patient is unable to feel the ground under the soles of his feet, having the sensation of cotton existing between the soil and the feet, that causes the patient the uncertainity in walking. Upon trying the sensibility with needles on the feet and inferior extremities, the patient is not capable to indicate the point where the needle was stuck. If two points are applied on the skin it is necessary to separate them by long intervals in order that the patient may be able to perceive them as two separate irritations. Upon the advancing of the disease he is. unable to feel any irritations; also he cannot perceive the presence of a few pounds laid on the feet. The loss of sensibility produces the impossibility of walking blindfolded, not being able to control the movements of the feet.

Other forms of anesthesia of the skin occur in the severe lesions of the central nervous apparatus which are accompanied with disorder of the organs of movement; the anesthesia of the trigeminus, which reveals itself in cases of cerebral tumors, apoplectical foci, exudations, and also in some instances of chronic poisoning, especially in that of lead; the consequent anesthesia is very often accompanied by paralysis of the facialis, but often this paralysis is not present; if the conjunctiva be irritated it does not produce the slightest sensation.

The anesthesia from lead poisoning is always connected with muscular paralysis, and is limited to particular parts. It is rather a form of analgæsia, the sense of pressure remaining, while only the susceptibility to pain is lost.

The cutaneous anesthesia is a characteristic symptom of Lepra Græcorum. After the disappearance of the bullæ of lepra, the parts attacked remain without sensibility. The places anesthetized are not coincident with a regular group of nerves, but are irregularly disposed, so that between the anesthetic points others exist, which retain their feeling.

In the beginning of lepra the anesthesia is not permanent, the region regains the sensibility after some time, which subsequently is entirely lost. In regard to the quality of anesthesia, sometimes the sense of pressure is wanting, the capacity to distinguish temperature or to feel pain remaining. Upon the advance of the disease, the anesthesia becomes permanent and complete, when the patient is unable to walk and burns his limbs at the stove unawares while warming himself.

The nerve trunks show marked alterations in lepra, as proved by Danielsen, Boek, Virchow and Hansen. The nerves, especially the medianus, ulnaris, peroneous, etc., have many swellings in their course. Their color is grayish-brown, and they become hard and sclerotic. The neurolemma is changed to a hard mass, and the nervous substance also becomes altered. Between the nerve fibres exists a black substance consisting of a mass of cells, which causes fatty degeneration and atrophy of the fibres. Such alterations were discovered at first by Virchow on the nerve trunks, and afterwards were found on the nerve ramifications of the corion and on the subcutaneous connective tissue by Boek and Danielson. The before mentioned anatomic pathological lesions explain the course of the anesthesia. At first exudation takes place in the neurolemma causing insensibility; upon the reabsorption of the exudation, the sensibility reappears; but when the cellular infiltration causing the fatty degeneration and atrophy of the fibres appear the anesthesia remains permanent.

The second family of cutaneous idioneuroses consists in she augmentation of sensibility and in its perturbation.

Cutaneous hyperesthesia consists in a great discomfort produced by the contact of the air, clothes and other objects to the skin. It may be general or it may be real, diffused or circumscribed. It may be of idiopathic or symptomatic origin; the latter is more frequently encountered. Hysteria is sometimes its cause; but at other times is connected with serious diseases of the brain, spinal cord and nerves.

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[1] Maggiorani, loc. cit.

I once observed the idiopathic hyperesthesia from irritation of the last nerve ramifications in the skin structure, produced by the actions of light alone:

Mrs. W., from Covington, Ky., when dressed in dark clothing has no disagreeable sensation on the skin, but on wearing clothes of a light color, she feels such discomfort that she cannot bear the contact with them. Upon remaining some time with light colors on the street, the skin is irritated; and if the skin is slightly scratched, urticaria wheals are produced. She received benefit from the application of the cold douche.

Another alteration of the sense of touch is a painful sensation, without the presence of a cause producing it.

This affection was called dermatalgia, and Beau at first, then Axenfeld called the attention of the dermatologists to this cutaneous neuralgia. A good and exact description has been given by Duhring, of Philadelphia.

The affection is entirely subjective, and nothing abnormal is to be noted upon the skin in its color, thickness and temperature. It may be diffused, but generally is restricted to a small area. It is ordinarily encountered in adults, and more frequently in women than iu men. The patients complain of a painful sensation on the surface of the skin with a feeling of a positive pain like that resulting from the sticking of needles, burning, or like that caused by denuding the part of the epidermis. The pain is more severe at night than in the daytime and may be be so severe as to prevent sleep. This affection varies in its duration from a week to several months; relapse is frequent; the contact of external objects, the rubbing of clothes and motion increases the pain. Duhring claims the existence of idiopathic and symptomatic dermatalgia. I confess that neither in Italy nor in Germany did I encounter a case of dermatalgia. Here in Cincinnati I was consulted by a lady, Mrs. W., of Walnut Hills, a person in very good health, who presented this form of dermatalgia. She was affected by zoster lumbofemoralis since last year. The eruption completely disappeared after twenty days, a painful burning sensation remaining on the area occupied by the zoster. On the surface of the skin, excepting some white slight scars left by the zoster eruption, nothing is to be observed. The sensibility is well maintained and equally well the sense of temperature. The pain is not continuous, but intermittent, attacking especially at night. A sense of formication begins on the region affected, followed by an unbearable sensation of burning. The attack lasts for some hours. entirely ceasing afterwards. In my case the affection is not idiopathic, but only symptomatic. You know that the zoster is always originated by trophic alterations in the nervous ganglia or trunks; well, the same alteration which, attaining the nervous ganglia, produced one year ago the eruption of zoster, is the cause now of the cutaneous neuralgia. I believe in this case that especially the ganglia of the trisplenic nerve were affected by an inflammatory state when the zoster eruption appeared. Now, exudations remaining in the same ganglia, produce dermatalgia. In fact, you know that the functions of the trisplenic nerve are periodic and in the attacks of this affection we find distinct periods. For the affection of the nervous ganglia they would be able to produce a momentary paralysis of the vasomotorial fibres. The blood accumulated in consequence of the vasomotorial paralysis around the sensitive nerve fibres which enter in the papillæ cutaneæ, would be the cause of the painful attack.

Beau believes the origin of the dermatalgia to consist in the rheumatic dyscrasy, but I think that too many affections were then attributed to rheumatic causes.

In the beginning we mentioned another alteration of the cutaneous sensibility which is not the pain, but a peculiar itching sensation, pruritus.

Itching is a physiological manifestation of the sense of touch, which for certain stimuli must answer thus and not in any other way. In consequence, the skin ought to be anesthetized if the presence of acarus does not produce itching on it. In one case the skin is affected by unbearable pruritus without any perceptible cause, therefore it is grouped under the head of cutaneous neuroses, with the name of pruritus cutaneous.

This affection, although known by Galenus, Mercurialis, Hafenreffer, nevertheless by many authors was confounded with prurigo, and Hebra alone determined the limits pertaining to both diseases.

This affection consists in an unbearable itching sensation, without any perceptible alteration on the surface of the skin. According to the intensity of the pruritis excoriations produced by scratching are found on the skin. The patients describe this sensation in different ways; some say they have a sensation as though new flannel was in contact with their skin, others have the sensation of formication, as if minute insects were crawling over the surface, or were boring in the parts. Others speak of a tingling sensation that causes a desire to scratch. Various are the degrees of pruritus, so that from a simple annoyance it sometimes becomes an insufferable sensation, capable even of exciting the patient to suicide. It is impossible to avoid the act of scratching howsoever strong may be the will. The patients scratch themselves till they produce bleeding, preferring the pain of excoriations to the discomfort of pruritus. The change of sensation from itching to pain is a comfort to them. Pruritus can be diffused over the whole surface of the skin or limited to some parts of the body. The general pruritus begins without any prodromal signs; the patient feels itching for some days and weeks, augmenting always in intensity and worse at night. After having gone to bed the patient feels itching in the points which in the day were compressed by the clothing; he begins to scratch, rubbing at first with the finger, afterwards digging with the nails into the skin, in order to satisfy the irresistible tendency to scratch. The suffering ceases for a few minutes and the patient sleeps a little, but troubled by bad dreams caused by the sensation of the skin. As a consequence of suffering the sufferer's character changes, he becomes intolerant, dislikes society and even loses the desire of life.

As objective signs of the pruritus there are only linear excoriations produced by the action of the nails. The excoriations appear in different stages, some older in the process of healing, others covered with black crusts, others which have recovered show spots of pigmentation. The skin is pale, of a bad color, dry, without tendency to perspiration and poor of fatty tissue. This terrible disease continuing, the patient, owing to loss of sleep and deficient nutrition, falls in marasmus, losing his life in consequence of these different complications.

What is the cause of such a disease?

The most frequent cause is the marasmus senile; in that case the skin is dry, withered and wrinkled. The changes affecting all tissues in senilis atrophy would be capable of determining such irritation in the least sensitive nerve ramifications; but whether that happens is not yet known.

In other cases we find pruritus in individuals of middle age, from forty to fifty years, and sometimes the cause consists in a gastric catarrh or in affections of the liver and constipation of the bowels. In females the pruritus cutaneus appears during pregnancy, ceasing with delivery. Thus many women are suffering from pruritus attained by disorders of the sexual organs. In pruritus cutaneus it is necessary to be careful in observing chemically the urine, because very often the cause is diabetes mellitus, or the chronic Bright's disease. Many patients sometimes never have perceived any other sign of disease. The first symptom was the pruritus of the skin, and upon examining the urine the serious disease was discovered. It is not quite certain, but very probable, that the glucose or its products brought in the skin produces pruritus. Sure it is that the materials of the bile brought into the circulation cause pruritus on the skin. Among the causes we must not forget the perturbations of the mind. We mentioned pruritus localis; among these forms it is well not to overlook the pruritus of the female genital organs, of the scrotum in the male, and of pruritus analis and perinealis, as well as of the palm of the hands and soles of the feet.

Duhring described a particular form of pruritus, which he called *hyemalis*[1]; this is sometimes very slight, at other times very intense. limited to the lower extremities, and particularly to the calves of the legs; worse in the evening, causing annoyance for some hours. In the beginning there is no alteration to be seen on the skin, but afterwards, from the irritation of the scratching, appear eczematous eruptions. In the spring all return to the normal state again and at the beginning of winter the disease reappears. Although the observations of Duhring, so distinguished a dermatologist, are worthy of attention, we cannot agree with him in grouping this affection under the head of the pure cutaneous neuroses. From our observations we believe that this pruritus is caused by the contact of flannel or of other heavy clothes, which, fitting more closely to the skin in winter time, are capable of producing irritation on its surface, irritation which causes at first pruritus, afterward eczematous eruption.

For the same reasons we cannot agree with Auspitz in considering prurigo as a neurosis of the skin. In prurigo we have material alterations of the structure of the skin, enough to explain the presence of itching. In the first appearence of prurigo in children the skin is affected by lichen urticatus, which is not a simple motorial spasmus of the muscles of the skin.

I will now stop with these considerations; I have exceeded the time assigned to an ordinary lecture in desiring to show the nervous alterations of the skin, from its functional side, as an organ of sensibility.

DISCUSSION.

Dr. Ransohoff remarked that the paper was so exhaustive and presented so many points of interest that one was at a loss what part to select for discussion. The physiological exposition of the subject was perhaps the most important. Other points of interest not mentioned in the essay are subjective symptoms, for instance, disturbances in sensation resulting from cerebral affections. These are peculiar and are felt as heat, formication and pain. If cold is applied to a peripheral part we have the sensation peculiar to cold. This sensation is, however, not imparted to the nerve when it is subjected to the same influence. If, for example, the elbow be placed in cold water, cold is not felt in the hand as in the elbow, but in the distal extremity the ulnar nerve causes a sensation of pain which is so great that the cold in the elbow is ignored.

Another interesting feature in the essay was the description of magnetism. The speaker, however, regretted that he had no personal experience in this matter.

To the speaker the most interesting part of the subject was the reference to anesthesia in syphilis. The cause of this is not known; it is found only in the second stage. His friend, Dr. Seely, described a case of anesthesia of the entire field of distribution of the intra-orbital nerve.

The essayist referred also to dermatalgia described by Duhring. The speaker agreed with Dr. Ravogli that Duhring went too far in attributing these pains of the skin to neuroses. The speaker also concurred in the opinion that they were attributable rather to the use of flannel worn on the skin.

Dr. Drury questioned the change of clothing as the sole cause of the so-called "winter" prurigo. He had two cases in which this disease began with this season but before flannel was worn. One individual did not usually change his clothing at all for the winter. In both cases the disease disappeared in spring.

Dr. Reamy thought that this might be in a great degree due to the temperature. He would, however, ask for explanation of a symptom which did not bear a direct relation to the subject under discussion and yet was not altogether foreign to it. He referred to hyperesthesia in cerebrospinal meningitis, which is generally characteristic in the upper or lower extremities. At present he had a cases in consultation where the opisthotonus is marked but no hyperesthesia. What explanation can be given for the extreme hyperesthesia in one and entire absence of this symptom in another equally typical case?

Dr. Juler remarked that persons liable to vesicular eruptions are prone to irritation of the skin in winter time. Especially persons working in the cold and then suddenly coming to a fire are apt to suffer from the irritation to the peripheral nerves. They have so insatiable a desire to scratch that by this practice the epidermis is removed and scales form on the limbs which become painful. An interesting feature is the education of the touch in the extremities. This feeling is cultivated already in a new-born child, especially in the upper extremities; it moves its arms and hands about much more than the legs, striving to grasp every object with which it can come in contact. It is also singular that if a part of a nerve is educated touch can at times be deceived; for instance, if a pea be placed in the hollow of one hand and the surface of the points of two fingers of the opposite hand be brought in contact with the object, the sensation of one pea is imparted; but if one finger be placed over the other so that the sides are simultaneously applied to the pea the object may appear double. The fineness of touch in the blind is also well known; he knew persons who could detect colors by the touch alone. (In them also the sense of hearing is rendered very acute). A blind lady acquaintance of his could tell by the creak of the saddle whether he or somebody else approached on horseback. This nicety of touch becomes perverted when the central nervous system is affected, as for instance the posterior portion of the spinal cord in locomotor ataxia.

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[1] Philadelphia Medical Times, 1874.

Dr. Ravogli, in concluding the discussion, said that in his opinion it was only the flannel clothing adapted to the skin which caused the eruption known as *prurigo hiemalis*. This irritation may afterwards cause an eczematous eruption. In his estimation the temperature had no effect in this direction.

The hyperesthesia in spinal meningitis he could explain in no other way than that the most sensitive parts of the nerves are their extremities; consequently pain is most marked in those parts in which they lie, the upper and lower limbs.

Correspondence.

CONTRACT SURGEONS, U.S.A.

Editors Lancet and Clinic:

If you will permit me I should like to call your attention to, and ask your and the profession's interest in and help for, a body of medical brethren whose duties are and have been arduous in the extreme and their compensation is considerably less than others get for the same identical service.

The Acting Assistant Surgeons of the Army have the same labors to perform as the Medical Staff Officers; they have worked side by side on the frontier for years, the contract surgeons doing their part of the work to the satisfaction of the medical department and of their commanding officers, and yet those who have had it in their power have never done anything to improve either the pay or position of these gentlemen.

They have spent many years of service on the plains, hundreds of miles in advance of civilization, they have followed in the chase after the murderous savages over the burning and waterless deserts of Texas and Arizona; they have borne their part in the hunt after the wildest Indians on the continent into the remotest fastnesses of the Rocky Mountains during such winters as the doctors in "the States" never dreamed of and can hardly conceive of; and yet no one has written or spoken one word in favor of improving their condition.

Contract surgeons have been in every Indian campaign since the Rebellion, they have endured all the hardships of life in the wilderness, all the privations that the army have been subjected to (and this can never be told) in field and in camp, and what is worse than all else—the dreary existence in frontier posts.

Will not the profession interest themselves in behalf of these long suffering members of the profession? Can they not be induced to use their influence, individually and in organized bodies, with Congress to have the law changed so that the vacancies in the Medical Corps of the Army shall be filled by appointment from amongst the Acting Assistant Surgeons who have served at least two years?

Then let them give all Acting Assistant Surgeons in the service the brevet rank, and the pay of an Assistant Surgeon of the rank of First Lieutenant. This is certainly not asking too much, for these gentlemen *are not* political hangers-on but hard-worked, hardworking and necessary servants of the republic. C.A.

IMPACTED FRACTURE.

Editors Lancet and Clinic:

I was called to see Abraham Reest on the 22d day of October 1881, who was thrown from a a load of hay over a precipice of fifteen feet, lighting among rocks upon his left side, producing an impact fracture and shortening of left leg one inch. A good union has resulted, and everything sound except a shortening of said leg. At the time I examined the injury closely, could not get any crepitus. He was very well satisfied; there was an impact fracture. I had counsel sent for. Dr. J. P. Cope who looked at the case as I did, we could not get any crepitus, but was very well satisfied there was an impaction. We left it as it was, did not undertake to extend the leg for fear we would separate the fragments and do irremediable harm. We find by examining Bryant's Surgery on page 830, the following advice: Crepitus must not be looked for in impacted fractures, it can only be felt on loosing the impact fragments and consequently by doing irremediable harm. In impact fractures of the hip this error is a fatal one and should be avoided.

Erichson's, on page 232, Impact Fractures it is necessary to use force in order to disentangle the fragments, but this is the only form of fastures in which its employment is justifiable. In effecting the reduction not only must the length of the limb be restored but its natural curves must not be obliterated by making it too straight. Now will some one be so kind as to inform me through your valuable Journal which way to treat such accidents and avoid seemingly a neglect of duty.

Respectfully,

N. Richardson.

Vernon, Ind., Feb. 3, 1882.

Selections.

MEDICINE.

Aids to Epidemiological Knowledge.—From the presidential address delivered by Geo. Buchanan, M.D., F.R.C.P., at the opening of the Epidemiological Society of London for the session of 1881-82, and published in the *Medical Press and Circular*, we extract the following:

In studying the nature of various fermentative and putrefactive processes, it has appeared to Professor Schroeder and M. Pasteur that certain microscopic bodies are essential to such changes. From the standpoint thus reached by the chemist, the chemist himself came to regard similar organisms as probably concerned in processes of disease also; and the researches of M. Pasteur in 1865 into the disease which was so fatal to silkworms, gave sufficient demonstration. This was a true view of the case in respect of that disease, and afforded a stronger presumption that the material of contagion was in nature a parasite being, having a life and life-history of its own. This strong presumption rapidly led to further inquiries; one after another the characteristic staff-shaped bodies of splenic fever, the spirillum of relapsing fever, and the microzymes of vaccine, of smallpox, and of sheep-pox have been made out.

For years before this period, the suggestion that particulate contagium must, almost of necessity, be *contagium vivum* had been one that had its attraction for the botanist. What if it should be the reproductive matter of some vegetable thing? At one time it did seem that we should find the genesis of cholera in that direction. It is to be admitted that Dr. Burdon Sanderson's critical examination of Professor Hallier's experiments relegated to the domain of the unproved this promising vision, but we are coming more and more to expect that the materials of some contagia have another *habitat*, perhaps in a known, but not yet recognized, alternative form. As time has gone on, and one disease after another has been found to be accompanied by organisms that are apparently concerned in their pathological processes, as the several members of the epidemic and contagious groups have been brought, with more or less of probability, into the list of those who have parasitic vegetable organisms for their actual cause, we are invited further to observe in the natural history of the various organisms affinities of botanical classes broadly corresponding to the nature of the groups of diseases with which they are found associated.

Unquestionably the prospects held out to the epidemiologist are of the most fascinating kind. As there was a period when we were promised in the behavior of metallic oxides in the presence of peroxide of hydrogen the line of explanation of what constituted contagiousness; so now we seem to have reached a point where the botanist offers us the most promising insight into the nature of what is epidemic.

I wish to spend the time that remains to me in pointing out some of the interesting and important consequences that follow from the doctrine which would regard the material of infectious disease as something in its essence having a place and mode of life beyond the infected body. One of these is the possibility that is appearing of being able to cultivate that material outside the body in ways that shall give it different degrees of potency. So long ago as 1867, Dr. Sanderson had distinguished two sets of consequences producible by local inflammations artificially set up in the lower animals—the one a chronic disease having the characters of tubercle, the other an acute disease presenting the features of pyæmia, and both infective and being producible at the will of the experimenter by the inoculation of the same material. In 1872 he demonstrated in a number of acute infective processes, microzymes abounding in the exudation liquids and in the blood; he showed how by successive transmissions of infective material an intensely virulent material could be obtained, the original product and the cultivated material having certain microscopical and physical characters distinguishing the one from the other. Dr. Knoch, of Wolstein, made a notable advance, and found the bacilli of splenic fever grow and multiply in blood serum and aqueous humor, and even in artificially prepared cultivating liquids, and that this could be done through successive generations, more than this, he found that mice inoculated with matter that contained numerous spores died of splenic fever in twenty-four hours, whereas mice inoculated with liquid in which spores were scarce did not die until later. And shortly afterwards our own Dr. Klein found this same property of cultivating outside the body in the very similar bacilli of the disease of the pig, known as pneumo-enteritis, and that liquid of the eighth generation inoculated in a pig produced a disease reduced in intensity.

In 1879, Dr. Burdon Sanderson found that the cultivation of anthrax in the body of rodents modified the poison so that the subsequent inoculation of a bovine animal did not destroy the life of the latter, but protected it from subsequent attacks of the disease. At the same time M. Pasteur made out for the disease called "fowl-cholera" the same quality of cultivability by multiplication of its bacilli in organic, but not vitalized, liquids.

We cannot help having before us the dazzling prospect of being able to offer to men and animals the protection of a trivial disease against each more fatal disease, to achieve what M. Pasteur calls the "vaccination" of animals against the several dangerous contagia.

But perhaps as valuable are the indications we are gaining of possible means of preventing epidemic diseases in other ways. Suggestions arise of material of contagion having, like tapeworm, an alternative mode of life outside the animal body, or in one animal body leading a different sort of existence from that in the other animal body. What if the material of cholera, or of yellow fever, or of enteric fever, should have another *habitat* than as a contagium, and there exist, having no power of producing disease until its conditions were changed, but then altering its mode of life, and becoming the active material of disease in animals into whose bodies it was introduced? What if we could recognize it in its other fashion of life, and destroy it or prevent the conditions necessary for its development? In 1875, Dr. Klein recognized in a particle peculiar to enteric fever a microphyte, which had been identified by Professor Cohn, of Breslau, as occurring in the water of a well at Breslau, and the district of the city supplied by that well has long been famous for the amount of enteric fever in it. The relation between milk and outbreaks of enteric or scarlet fever or diphtheria has been thought of as a mere affair of disease entering milkcans by the aid of water used in washing or of hands used in milking cows. It may turn out that the disease producing milk has received some organism that under other conditions of life would have been impotent, or such organism have been derived from the body of the cow itself.

Indeed, the hygienist is coming to suspect that he may often have to do with organized material not far developed from perfectly non-specific germs. It is impossible not to recollect the inquiries of Dr. Ballard, of Welbeck and Nottingham, in which he heard of strange maladies occurring in groups of people, and having their cause in some common article of food.

Such are a few examples of the aid which pathology is rendering to an understanding of epidemics. It must be of concern to our Society in the future to have regard to the many new considerations that are presenting themselves to us, and to put the views of the pathologist to the test of our manifold experiences.

RECENT EXPERIMENTS WITH DISINFECTANTS.—Koch publishes the following results from his experiments showing the relative power of various disinfectants. Carbolic acid even in a five per cent. solution acts with uncertainty upon bacillus spores. Milzbrand bacilli free of spores are but lightly attacked by solutions of carbolic acid between 0·5 and 0·25 per cent. But in dilution of 1 to 850 up to 1 to 1250 it checks the development of milzbrand bacilli. Carbolic acid dissolved in or mixed with oil or alcohol has not the slightest effect. The so frequently used carbol oil is wholly ineffective. Chloride of zinc has no disinfecting properties. And nearly all the other known disinfectants are perfectly valueless in the destruction of milzbrand spores. They may be kept unhurt for months in absolute alcohol. But ether and turpentine showed some but uncertain effects. But there are on the other hand many substances which can check the development of bacteria in proper and nutritive fluids. Corrosive sublimate outranks all the rest in this regard. It completely arrests the development of milzbrand bacilli in a solution as weak a 1 to 300,000. Various volatile substances exercise some effect. Allylalcohol checks growth in a dilution of 1 to 167,000; oil of mustard 1 to 33,000. Thymol arrests growth at 1 to 80,000, peppermint oil 1 to 33,000, oil of turpentine 1 to 75,000. Carbolic acid has a much weaker effect, 1 to 1250, quinine 1 to 830, benzoate of soda 1 to 200, salicylic acid 1 to 3300. Bromine and iodine in gaseous form kill the spores more effectively than chlorine and iodine, but a perfect disinfection requires repeated use and much expense. But corrosive sublimate kills the spores of milzbrand effectively in a few minutes in a solution of 1 to 5000. A mere transitory moistening with a solution of 1 to 1000 kills the spores. As above mentioned corrosive sublimate has growth checking properties in a dilution of 1 to 300,000. This enormous power of corrosive sublimate suggests the use of the agent therapeutically, in some way that may be carried out without harm to the animal.—*Medizin. Neuigk.*, January 7, 1882.

ANGINA AND ALBUMINURIA.—At a recent meeting of the Société Medicale des Hopitaux, M. Lereboullet read a report on a "memoir" by Dr. Laure, of Lyons, on the relations of angina with albuminuria. We know that in rheumatism the albuminuria depends on a slight congestive nephritis, and that the nephritis is more severe in gout. M. Laure basing his opinion on several observations of rheumatism with angina and severe albuminuria, attributes to the angina the most part in the production of the albuminuria. He seeks also to establish the fact that in the course of any angina, even catarrhal, we find albumen in greater or less quantity in the urine, albuminuria which may at length become permanent. M. Lereboullet does not entirely agree with this opinion, and does not think that albuminuria is so common in various anginæ. The cases which M. Laure has observed may offer some special conditions; but in presence of such a considerable albumen in rheumatic patients, three grammes per litre in one case, it is very probable that a pre-existing nephritis added its action to that of the actual affection. In the second place if the patients were followed up long after the cure, one would doubtless find an albuminuria independent of the rheumatism and the angina, and symptomatic of a renal lesion. This opinion is supported by the retractility of the albuminous coagulum observed by M. Laure.—*Med. Press and Circular.*

THE PATHOLOGY OF MALARIA.—In the blood of patients suffering from malarial poisoning, M. A. Laveran has found parasitic organisms, very definite in form and most remarkable in character. Some were cylindrical curved bodies, pointed at the extremities, with a delicate outline and a transparent body, colorless except for a blackish spot in the middle, due to pigment granules; on the concave side a fine line could often be traced, which seemed to unite the extremities of the crescent. These bodies presented no movement. Spherical organisms were also seen, transparent, of about the diameter of a red blood-corpuscle, containing pigment grains which, in a state of rest, were often arranged in a definite circle, but sometimes presented rapid movements, and then lost their regular arrangement. On the borders of the spherules very fine filaments could often be perceived in rapid movement. These filaments were in length three or four times the diameter of a red corpuscle. Their number varied. Sometimes three or four were seen around a spherule, to which they communicated an oscillatory movement, displacing the adjacent red corpuscles. The free extremities of the filaments were slightly reflexed. When at rest the filaments were,invisible on account of their tenuity and perfect transparency. These mobile filaments appeared finally by becoming detached from the pigmented spherical or irregular form, transparent or finely granular, about the hundreth of a micro-millimetre in diameter, containing dark-red, rounded pigment grains, either regularly arranged at the periphery, or aggregated at some part of the spherule. The bodies and granules were both motionless. These appear to be the ultimate or "cadaveric" stage of those last described. They have no nuclei, and do not tint with carmine, a distinction from the pigmented leucocytes, with which they have hitherto been confounded. Lastly, spherical elements were met with similar to those already described, but much smaller in size, and apparently representing a stage in their development. The animated nature of the mobile pigmented spherule, furnished with filaments, appears indisputable. M. Laveran regards it as a form of animalcule, which exists at first in an encysted state, and in the perfect condition becomes free in the form of mobile filaments, a mode of development not uncommon among the lower organisms. Besides these organisms, the blood of patients suffering from malarial fever contain— (1) red corpuscles, which appear to be vacuolated at one or two spots, and contain pigment granules; (2) pigmented leucocytes; (3) free pigment granules, possibly proceeding from the destruction of the parasitical organisms.

These elements were first discovered by M. Laveran a year ago, and since then he has examined the blood in 192 patients affected with various symptoms of malarial poisoning, intermittent and continued fever, and palustral cachexia, and found the organisms in 180. The disease had deen contracted for the most part in different regions of Algeria and Tunis. He convinced himself, by numerous and repeated observations, that these organisms are not to be found in the blood of persons suffering from diseases that are not of malarial origin. In most of the cases of malaria in which the examination yielded a negative result, the patient had undergone a course of treatment with quinine, and to this fact the absence of the organisms from the blood was probably due. The addition of a minute quantity of a dilute solution of sulphate of quinine to a drop of blood was found at once to destroy the organisms. In all the examinations great care was taken to preclude the entrance of any extraneous objects into the drop of blood examined. In general the parasitic bodies were found only in the blood at certain times; a little before, and at the moment, of the accession of the fever. In some very obstinate cases the organisms were always present in the blood. They rapidly disappeared under the influence of a quinine treatment. It is conjectured that in the apyrexial intervals the organisms probably sojourn in internal organs, especially the spleen and the liver. After death from malarial disease, pigment granules are found in great numbers in the blood, and especially in the small vessels of the spleen and liver; and they may be in the most severe cases, so abundant that not only the spleen and liver, but the marrow of bone, and even the grey substance of the brain, are darkened by their presence. These pigment granules, which may obstruct the capillary vessels, appear to be derived from the parasitic elements, which perish after death, and become then unrecognizable.—*London Lancet.*

HEMEGLOBINURIA AS A RESULT OF COLD.—In the *Société Médical des Hopitaux* M. du Cazal reports a case of a young man of good health who after exposure to cold, had a violent chill, followed by fever and hematuria. These symptoms rapidly disappeared, but returned whenever the patient was exposed to cold. The blood disappeared from the urine as soon as the attack ceased. A microscopic examination showed no blood corpuscles, but only the coloring matter, hemoglobine; there was also found some albumen. In the discussion which followed, M. Bucquoy spoke of having observed a man who for many years had been subject to attacks of the character described. He finally recovered without any special medication.

M. Hayem, in a similar case, had been able to prove that blood plasm obtained by cupping at the time of the attack contained a quantity of hemoglobine.—*Jour. de Med. et de Chir. Pract.*

AN UNUSUAL CASE OF INTESTINAL OBSTRUCTION.—At a recent meeting of the Northumberland and Durham Medical Society, an interesting case of obstruction of the bowels was recorded by Dr. DRUMMOND as having occurred in his hospital practice. The patient, a male, aged fifty-four, was admitted into the Newcastle-on Tyne Infirmary for constipation, vomiting and suppression of urine. The first symptons—constipation, with pain in the right hypochondrium, especially after eating—had been noticed eight weeks before; and for nearly three weeks, there had been occasional vomiting and complete obstruction. The usual therapeutical manœuvers failing to give relief, and the patient's condition becoming urgent, it was deemed expedient to explore the abdominal cavity; and this Dr. ARNISON, the senior surgeon to the hospital, proceeded to do by abdominal section. An incision was made to expose a mass which could be felt through the abdominal walls, occupying the position of the ascending colon. The peritoneum covering the mass was livid, and, from its appearance and relations, was taken for intestine and opened. There was found a tubular cavity containing dark, loose blood-clot, of offensive odor; and contained also within this cavity, at about the position of the hepatic flexure of the colon, was a calculus, of the size and shape of a large nutmeg. The condition of the patient, who was observed to be sinking, and who shortly afterwards died, prevented further exploration. At the post-mortem examination, Dr. Drummond discovered an aneurism of the hepatic artery, which had ruptured its walls, and the contents of of which, on becoming diffused, had passed down behind the mesentery, and, pressing upon the ileum a few inches above the cæcum, had thus brought about complete occlusion of the gut. The calculus, a biliary one, was evidently derived either directly from the gall-bladder or from one of the hepatic ducts. A circular space, two and a half inches in diameter, was absorbed on the under surface of the liver, corresponding to the position of the gall-bladder, which, at the post-mortem, could not be found. The case, we believe, is almost unique in the annals of abdomininal surgery.—*Brit. Med. Journ.*, Dec. 31, 1881.

CONVULSIONS AND EPILEPTIC ATTACKS OF CHILDREN.—*Chlorate of Potash.*—Young children from the first to the sixth year, particularly those sleeping in over crowded rooms, are subject to frequent attacks at night of screaming, with insensibility, and semi-convulsions and somnambulism if not watched, and something approaching to the *petit mal*, due to the inhalation of air deficient in oxygen and laden with carbonic acid and other morbid products, a persistance in this habit often leading to tubercle of the brain and lungs. For this condition I have always found chlorate of potassium a sovereign remedy, and for the true convulsion and epileptic attacks of children it has proved not only curative, but more important still, a true preventive. For the adult epileptic, although not so useful as the bromide, I have prescribed with great advantage this salt alone and in combination with the bromide.—Dr. Alex. Harkin, *Dub. Med. Journ.*

MALARIA AND DIABETES.—At a recent meeting of the Academie, M. Verneuil called attention to the relations existing between glycosuria and malarial diseases. Both maladies coëxisted in six cases observed in his service, where the patients entered for various surgical diseases (epithelioma of the penis, gangrenous patch (plaque) on the heel, tumor, etc.).

The principal memoir on the coëxistence of these two morbid states is by M. Burdel, of Vierzon, presented to the Acad. des Sciences, in 1859. This observer found sugar in 80 out of 86 cases of true intermittent fever. The conclusions he arrives at are as follows:

1st. There exists in malarial fever a veritable glycosuria.

2d. This diabetes is ephemeral; it appears with the fever, persists during its continuance and disappears with it.

3d. The glycosuria of intermittent fever reveals the deep and special effect this form of fever has on the equilibrium existing between the cerebro-spinal and the sympathetic nervous systems.

4th. This explanation, given by Cl. Bernard, is in conformity with the clinical facts.

5th. The more violent and intense the access of fever, the greater the quantity of sugar found in the urine.

6th. When, on the contrary, the attacks become more numerous and less intense; when, in a word, the malarial cachexia becomes established, then it will be found that the quantity of sugar is much less considerable.

The cases observed by M. Verneuil have led him to somewhat different conclusions, and none of his patients had had actual attacks of intermittent fever for some time previous to coming under his observation. These cases and others have led M. Verneuil to arrive at the following conclusions:

1st. Malaria frequently engenders glycosuria.

2d. Which presents itself in two forms: the one cotemporary with the febrile attack, and like it, short and fugacious; the other supervening at a period, more or less distant, independent of the febrile paroxysm and permanent.

3d. Permanent glycosuria seems to attack, by preference, vigorous subjects, having some leaning to the arthritic diathesis.

4th. Glycosuria, of malarial origin, appears to be one of the benign forms of diabetes.

5th. Intermittent affections supervening in such subjects, may take on certain characters of malaria or glycosuria, or of both diseases at the same time.

Traumatic lesions may awaken or aggravate the two diatheses, particularly the accidents of malarial origin.

M. Leon Colin considered that a greater number of observations were needed to confirm the conclusions arrived at by M. Verneuil.—*Medical and Surgical Reporter.*

SEILER ON ASCITES IN CHILDHOOD.—Dr. Seiler (*Berlin Klin. Woch.*, June 27th) divides cases of ascites in children into two primary classes: 1. Those dependant upon some affection of the peritoneum. 2. Those resulting from obstruction in the portal system, exclusive of such varieties as so-called chylous ascites, or fatty degeneration of the peritoneum, or the ascites which forms part of a general dropsy. In the first group are included (*a*) tubercular peritonitis, the exudation in which is always serous, and never hemorrhagic, as is often asserted; (*b*) primary carcinoma of the peritoneum, which often runs a painless chronic course, with a constant sanguineous exudation; (*c*) a primary peritoneal exudation, the result of inflammation similar to pleuritic effusion, is of very doubtful occurrence. In the second group are to be enumerated (*a*) medullary sarcoma of the liver pressing on the portal vein; (*b*) syphilitic gummata, or cicatricial contraction of the liver; (*c*) cirrhosis of the liver. This is the most important. The precise cause of this condition in all cases is obscure, but in the majority, where alcohol is excluded, a diffuse syphilitic hepatitis may be looked upon as producing it. Such cases are curable by mercury and iodide of potassium.—*London Medical Record.*.

ON THE VALUE AND SAFETY OF ADMINISTERING LARGE DOSES OF IODIDE OF POTASSIUM IN THE LATE LESIONS OF SYPHILIS.—The *Medical*

Record, November 26, 1881, contains a communication by Dr. M. H. Henry, in which he gives the history of a very interesting case of dementia and hemiplegia due to syphilis, in which small doses of iodide of potassium had failed to effect little, if any, improvement. Beginning with thirty grain doses three times daily, and gradually increasing the quantity of each dose and their frequency of administration, until three hundred grains per day was reached, there began to be a marked daily change for the better. In this case, as the doses were increased the improvements were most marked. The patient took three hundred grains daily for more than eight weeks, and with the disappearance of the syphilitic symptoms, he gained steadily in his general health and in flesh.

He was discharged, cured, nearly ten years ago, and has enjoyed good health ever since. He is stout and hearty, and is in full possession of all his faculties, and has been for many years attending to his business. He bears no evidence of any syphilis, and certainly none of any disease of the kidney; nor was there any albuminuria during the time he was under treatment. The doctor adds, that he frequently meets patients who were under his care as far back as 1864, and who, in the course of treatment, have taken very large doses of the iodide. They are invariably doing well, and bear no evidence of disease of the kidney or any lesion of syphilis.

TREATMENT OF BRONCHIAL AFFECTIONS OF PULMONARY PTHTHISIS BY AMMONIACAL INHALATIONS.—M. Melsens highly recommends (*Bull. de l' Académie Belge, et Paris Méd.*, October 22, 1881) the therapeutic employment of ammonia by inhalation in phthisis. Knowing that ammoniacal emanations may be respired without danger, of which the proof is the perfect health of the workmen who dig guano, and also knowing the good effects of the air of cow-houses in pulmonary phthisis, effects which are generally with justice attributed to the emanations of carbonate of ammonia generated in these stables, M. Melsens conceived the idea that continuous but moderate respiration of this salt might be useful in other affections of the respiratory organs. He decided, after an attack of acute bronchitis, to make the experiment on himself. For that purpose, he wore outside his shirt a bag containing some pieces of carbonate of ammonia; after some time he was absolutely relieved from the affection; improvement set in from the first day. Several invalids who employed the same means obtained great benefit from it, even in cases of long-continued chronic bronchitis. Amongst others, a physician at Brussels, who had suffered for a long time from an obstinate cough, due to chronic bronchitis, with dilatation of the bronchi, complicated with emphysema, asthma, and sometimes with acute laryngitis. He used the bag of carbonate of ammonia, and found himself perfectly cured.—*London Medical Record.*

IODOFORM POISONING.—Dr. A. Henry, who had previously obtained very good results in carious disease by treatment with iodoform dressing, communicates to the *Deutsche Med. Woch.*, No. 34, 1881, the details of two fatal cases of poisoning from the use of iodoform in this way. No other positive cause of death could be discovered on *post-mortem* examination, and in both instances the symptoms presented were typical. The cerebral symptoms were the most prominent, consisting in extreme drowsiness, from which it was difficult to awake the patient, and which eventually ended in coma; there were also paralysis of the sphincters, aphonia, contractions of the muscles of the neck, boat-shaped retraction of the abdominal walls, and a very rapid pulse. Temperature was normal throughout. The only difference between the cases was in the acuteness with which the symptoms set in. In the first case $\frac{150}{200}$ grm. iodoform had been used, the first signs of illness appearing on the second day, and death occurring on the sixth. In the second case $\frac{100}{150}$ grm. iodoform were used, nine days passed, in which the patient was perfectly well; this period was followed by two days of distressing headache; then drowsiness, etc., were noticed, and the patient died on the sixteenth day after operation. *Post-mortem* examination revealed only fatty degeneration of the heart, and parenchymatous disease of the liver and kidneys, as in cases of chloroform poisoning, and in the experiments made on animals by Moleschott, Binz, etc. It remains to be mentioned only that the first patient was a drinker, well-built, and aged fifty-seven; the second was a weakly woman, aged sixty.three.—*Glasgow Medical Journal.*

SURGERY.

SUCCESSFUL REDUCTON, after four months' malposition of a dislocated third cervical vertebra, causing various serious nervous symptoms. The patient, a lad of American parentage, 15 years old, was brought to me on the 18th of August, 1880. Four months before he had attempted to turn a somersault, and had fallen upon his head in the attempt. There was neither loss of consciousness at the time, nor any untoward symptoms other than the appearance of a small projection upon the back of the neck. The next morning he experienced some slight difficulty in swallowing, which steadily increased, although varying in degree from day to day. About thirteen weeks after the accident the bladder became distinctly, though not markedly, paretic. About fourteen weeks after, the patient became sensible of a numbness in the left arm. Three days before coming to me, the left upper and lower extremities became powerless, although, singular to say, this lower extremity had not shown any subjective alteration of sensation except a slight itchiness. During the week previous to his visit to me, a slight numbness had appeared in the right leg. At this first examination I found the left upper extremity almost completely paralyzed in motion, the left lower extremity somewhat less so, both these extremities moderately paralyzed in the sense of touch—I regret to say that I did not test the other sensations—and the left side of the face paretic. The left upper extremity was decidedly fuller than the other, without, however, presenting œdema or unusual vascularity. There was occasionally a quick, sharp tremor of the whole body, which came on only while he was standing. The tendon-reflex of each quadriceps extensor was greatly exaggerated; but there had not been at any time any symptoms of hasty micturition. Over the region of the third cervical vertebra, there was on the back of the neck a projection about as large as a pigeon's egg. Pressure upon it produced some pain around the point of pressure, but none was felt at the front or side of the neck. The spinous process of the third cervical vertebra was deviated markedly to the right. Inserting the finger into the mouth, horizontally backward on a level with the upper surface of the tongue, a distinct depression could be felt in the posterior pharyngeal wall, corresponding to the third cervical vertebra. The attitude of the head was peculiar. The right ear was strongly inclined to the right, the chin directed to the left, but the point of the chin was not elevated. The right sterno-cleido-mastoid was prominent and tense. The point of the left shoulder was drawn up, the acromion process of the scapula being approximated to the median line of the body, and the inferior angle being thus thrown out.

The patient had been under the charge of several physicians, who had been in doubt as to whether there was not a fracture of the spinous process complicating the dislocation, and who had therefore refused to undertake any attempt at reduction. I was myself in doubt as to the fracture. My friend, Dr. Benj. F. Westbrook, whose anatomical knowledge has been invaluable to me throughout the progress of the case, was firmly of the opinion that no fracture was present. But fracture or no fracture, it seemed to me clear that a reduction should be attempted. The difficulty of swallowing had become so great that the boy was fed on soft and liquid food, and at certain times even this was troublesome: the nervous symptoms were progressing at an ominous pace; nothing but a restoration of the bone to its proper place offered any hope of saving life; and if the reduction were prevented by the callus of a former fracture of the spinous process, no harm could be done by the attempt. I explained all this to the boy and his parents, and then told them in addition that I might possibly kill him on the operating table. but if he was willing to run the risk I certainly was. He pluckily assented with great promptness. So on the 27th of August, I went to work.

His condition was not materially altered from what it had been nine days before when I first saw him, except that deglutition and the left upper extremity had become worse, and a sharp pain had appeared in the left side of the neck and at the back of the head.

In making reduction I was assisted by Dr. Benj. F. Westbrook and Messrs. (now Drs.) Leuf, Callaghan and Ferguson. Counter-extension was made by means of folded sheets laid over each shoulder and then brought across the back and shoulder to the opposite, where ends of each were placed in charge of an assistant. A gag was used to separate the jaws, Dr, Westbrook kindly undertook the task of ascertaining by palpation within the pharynx and along the spine, how the operation progressed. The boy was laid flat upon his back on the table, and etherized until all his muscles were relaxed. Supporting the head by one hand upon the occiput and the other upon the brow, both my hands being covered by those of an assistant, and counter-extension being firmly maintained, I made extension steadily upward to what I deemed a proper degree, and then slowly and cautiously rotated the head from left to right. It was necessary to make this rotation three several times before the bone went into place, each rotation, however, effecting evident improvement, although no tendinous snap was heard at any time. But go into place it did, and without the manifestation of any dangerous symptom.

An assistant was left in charge of the patient until he recovered from the ether narcosis, and great care was taken to prevent any tossing about of the head. At the same time a billet of wood, enfolded in a towel, was laid under the neck, which was thus made concave posteriorly.

On returning to the house about four hours after the reduction, I was gratified at finding the boy bright and cheerful, having no difficulty in deglutition—he had drunk heartily of milk, which he had hitherto taken only by the spoonful—able to lift his hand readily to the top of the head, much improved in motor control of the left lower extremity, and free from numbness anywhere. The patient was not permitted to rise from the table for upwards of three weeks. During this period the head was kept between the prongs of a photographer's head-rest, which permitted of sufficient lateral motion to render the position endurable, and at night a watch was kept to see that the head was not displaced from this support. At the end of this time he was allowed to assume a sitting posture for a couple of days, and then go about the room. I now notice that ths spinous process of the third cervical vertebra began to deviate again from the line of its fellews, but only to a very slight degree, and a faint depression could again be felt corresponding to the vertebral body; no nervous symptoms, however, were manifested. I was reluctant to interfere again unless it became absolutely necessary, and I contented myself with enjoining great caution and deliberation in the movements, as well as confinement to the house. Notwithstanding these directions, the patient, after a week of this irksome life, started out one morning and walked about for several hours. The next day I found a distinct, though not very marked, displacement of the vertebra. I immediately determined to run no risk of pressure upon the cord, and accordingly brought the table and the photographer's head-rest into play as before, and kept him thus until I again reduced the bone a few days after, on September 27th, in the same manner as at first. Dr. Frank W. Rockwell and Messrs. Callaghan and Leuf kindly assisted me. The reduction was easily made, and the bone went into place with a sharp ligamentous snap. Two weeks more in the supine posture and the patient got up, cautiously at first, and has had no further trouble. He was shortly afterward employed by the District Telegraph

Company, and signalized himself as one of their fastest runners. He next passed into the employment of a factory. Some four weeks ago he came to my office and informed me with considerable complacency, that he had fallen headlong down a flight of stairs without any ill symptoms. No displacement of the bone in any degree can be made out. But, until within a quite recent period, distinct, even some marked, contracture of certain muscles had remained, and it was ascertained, by a careful examination made some four weeks ago, that these were, on the left side the levator anguli scapulae and the upper fibres of the trapezius, on the right the splenius capitis, trachelo-mastoid, the complexus, and also the scaleni of both sides. To my surprise, however, he returned to me on the 4th of this month (December, 1881) *without a vestage of contracture except in the occipital attachment of the sterno-mastoid.* So that fifteen months after the first reduction the boy is well, and this, be it understood, without any medical treatment whatever of the contractures.

The order and progression of the symptoms in this patient were curious. For thirteen weeks after the dislocation there was none other than a difficulty in deglutition. Then the phenomena came fast and many. First a vesical paresis; next, a numbness of the left upper extremity; then a numbness of the right leg; then a motor paralysis of both upper and lower extremities; and finally, when he came to me there were found—though the relative dates of appearance could not be ascertained—a paresis of the left face, tactile anæsthesia of the left upper and lower extremities, an occasional tremor, exaggerated tendon-reflex (although there had been no hasty micturition), and contractures of certain muscles of the neck and shoulders. This is very ideal picture of a group of reflex irritations. To unravel them, and speak of the rationale of each in detail, would require an essay upon spinal anatomy and physiology.

I believe that this case is unique in its reduction after so prolonged a dislocation and supervention of such grave symptoms. I say this with some reserve, however, because I have had neither time nor inclination to search the litterture of the subject thoroughly, although I have done so to a large extent. But the success attending it would certainly seem to indicate that on one hand the dangers of vertebral reduction are greatly exaggerated, and that, on the other, the benefit occurring from such reduction in seemingly grave cases has not been fully appreciated.—Landon Carter Gray, M. D., in *Annals of Anatomy and Surgery.*

RESECTION OF THE ANKLE-JOINT FROM THE FRONT.—Dr. C. Hueter describes in a recent number of Langenbeck's *Archiv f. Klin. Chiurg.* a method of excising the ankle joint, which he has recently practiced with success. It was suggested by the consideration that it is from the front that the best view of the joint surfaces can be obtained and the removal of carious foci of bone most readily achieved. The difficulties in the way of such a proceeding are, however, evident, and previous to our recent experience of the successful suture of severed tendons and nerves, they were insuperable. But this experience has enabled Hueter to carry out his desired procedure. He makes a transverse incision from the back of one malleolus to the back of the other, places a double ligature on the anterior tibial artery, and cuts the vessel between, and divides its companion veins and nerves. The tendons of the tibalis anticus and extensor longus pollicis are cut, and that of the extensor communis digitorum drawn aside or cut as may be necessary. The capsule of the joint is then opened from the front, and the diseased surfaces of bone sawn off or gouged out. The real difficulties of the operation now commence. The divided nerves — anterior tibial and musculo-cutaneous—are united by fine sutures through the paraneurotic loose connective tissue. The cut tendons are in the same way joined, not end to end, but overlapping each other, so that the uninjured peri-tendinous tissue around the two ends is in contact. Of course every precaution must be taken to secure primary union of the wound.—*London Lancet.*

EXCISION OF THE KNEE IN EARLY LIFE.—From a paper on this subject, Dr. William Stokes draws the following conclusions:

1. Excision of the knee should not be looked upon as a last resource, but should be undertaken, if possible, before any profound organic changes take place.
2. Expectant treatment, to be efficient, must be undertaken at an early stage of the disease, and extend over a period of at least two years.
3. No better result than ankylosis can be looked for by this method.
4. In a patient with a predisposition to secondary tuberculous developments, the possibility of the recurrence of the disease after expectant treatment must be borne in mind.
5. In cases attended with prolonged suppuration, the chances of the occurrence of visceral, especially renal disease, must not be lost sight of.
6. Where the skin is unbroken, the disease limited, an efficient method of fixation applied, and a rigid system of antiseptic dressing of the wound adopted, primary union may, in the majority of cases, be anticipated.
7. When these latter conditions are fulfilled, excision of the knee-joint cannot be longer regarded as the formidable procedure it was formerly held to be.
8. The alleged unfavorable results of excision of the knee-joint in early life are opposed to more extended clinical experience. — *British Medical Journal.*

IODOFORM DRESSING.—M. Sée employed for some time back iodoform in dressing every kind of wounds. To-day the same treatment was generally adopted in Germany, and with the best results. M. Sée uses it in every kind of ulcer, surgical wounds that will not heal by first intention, and jagged wounds in which pus stagnates easily. I fill in these cases, said M. Sée, the cavity with powdered iodoform, and immediately the pus ceases to be secreted. It is a very simple and easy dressing, and has none of the complication of the Lister dressing, and succeeds just as well. It has two inconveniences, however, it is dear and smells strongly. M. Després has twice employed iodoform in the dressing of wounds, and each time patient refused the treatment on account of the bad smell it produced. He would like to know from M. Sée how long his wounds took to heal. As for him (M. Després) he would guarantee to cure any simple ulcer by rest and cataplasms. M. Terrillon said that in a journey he made to Vienna he had seen in the service of Billroth iodoform dressings employed on a large scale, and yet he did not perceive any odor in the wards. The following is how it is employed by that celebrated surgeon: A piece of ordinary gauze is taken and freed from stiffness by steeping it in warm water, when dry it is triturated in powdered iodoform and then it is ready for application. To disinfect this agent a drop or two of essence of bergamot or peppermint. In total ablation of the uterus through the vagina, M. Billroth said he had obtained excellent results from plugging the vagina with this iodoformed gauze, and renewing it every eight days. M. Verneuil considered iodoform to be an excellent topic for ulcers of a bad nature, but he did not employ it in surgical wounds. As for soft chancres, no dressing can be compared to it for efficacy and rapidity of action. These chancres are healed in three or four days. In scrofulous ulcerations the action of iodoform is also marvelous. Its bad odor can be corrected by mixing it with an equal part of powdered camphor. In a word it is a very precious agent. M. Trelat also believed that iodoform renders great services in local applications. M. Després, on the contrary, insisted that any other kind of dressing was equal to iodoform, which he considered a vulgar counterfeit of iodine. His method of treatment, although belonging to the old school, succeeded just as well, and cost less. M. Sée terminated the discussion by thanking the members for their valuable information, and added that the iodoform succeeded just as well in deep-seated lesions, as in those on the surface; for he had seen white fungous swelling of the knee-joint cured by injections of this agent dissolved in ether.—Proceedings Société de Chirurgie, *Med. Press and Circular.*

DEVELOPMENT OF A SINGLE BREAST IN GIRLS.—M. Després took occasion of the presence of a girl at his clinic to draw the attention of his class to a circumstance that causes alarm to mothers, and is sometimes judged wrongly of even by practitioners. This was an example of the developement of only one breast at the age of puberty, when the belief is often entertained that this arises from the presence of a tumor. This girl was thirteen years of age, and was brought to the hospital under the idea that she had a tumor of the right breast, the left one not yet having undergone any change. Her attendant had prescribed iodide of potassium. M. Després at once assured the mother that it was only the natural development of the organ, and would be soon followed by the appearance of the menses and the development of the other breast. He observed to his class that while it is natural for mothers to be deceived in these cases, it should be impossible for the surgeon to be so. In fact, there exists beneath the breast a regular prominence in the form of a movable disk on the chest, without the slightest adherence to the skin, and accompanied by no pain whatever. The nipple is exactly in the centre of the tumefaction, and although the developing gland is resistant, it is never irregular, and never presents lumps. A tumor of new formation, such as a sarcoma, is always harder, and is never found exactly in the centre of the mammary region.—*Gaz. des Hop—Med. Times and Gas.*

ANTISEPTIC SUTURE OF THE PATELLA.—*Arch. für Klin. Chirurgie*, xxvi., p. 286.—Pfeil Schneider.—The author details a case of a fractured patella in a man thirty-five years old, which he treated with antiseptic sutures twenty-four hours after the injury. The result was complete recovery in forty-four days after the accident, with entire use of the knee from that day on.

The author found in literature nine similar cases of subcutaneous fracture of the patella in which the antiseptic suture was applied. A more exact analysis showed that the operation had been performed five times in old cases, and the other cases were in recent fractures (one refracture). No patient died. Six cases recovered without any reaction locally or generally having been noted. In one case the temperature went up to 103°; twice suppuration of the joint occurred. Bony union of the fragments were observed certainly eight times, and once probably (case of Lister). In the tenth case union was established by means of a short ligament (Cameron). In eight cases the joint remained movable; in the other two anchylosis was present before the operation. After mentioning the very favorable results obtained in such fractures in the pre-antiseptic period, the author arrives at the following conclusions:

Antiseptic sutures in subcutaneous fracture of the patella is admissible, and is really benign in comparision to many operations that are carried out now-a-days with antiseptic precautions. He insists that strong sutures be used, and be allowed to remain untouched. The after-treatment consists in restitution of the knee joint; on this account, in favorable cases, patients must not remain more than two or three weeks in bed. —*Atlanta Medical Register.*

CARTHAGO EST DELENDA—THE DEATH OF THE CARBOLIC CRAZE!—To every thoughtful man it must be perfectly humiliating, from the scientific standpoint, to reflect on the surgical fanfaronade which, for the past few years agitated, not only the profession, but the public, in connection with carbolic acid, and now to read in the editorial columns of a contemporary, "we may say that the day of carbolic acid is over."...."The spray has been abandoned by many surgeons, and even Mr. Lister has spoken in qualified terms of its necessity; and had we to prophecy, instead of to record accomplished facts, we might venture to predict an early abandonment of this cumbrous addition to a surgeon's armamentarium." All this is precisely what all sensible men knew sufficiently well to be inevitable. But what of the great "cures" that have been accomplished by means of carbolic acid? What of the children who have first entered the "vale of tears" through its incense? What of the ephemeral reputations based on this illusory theory? What of the numerous papers which have appeared in our journals from so many incapable of forming correct judgments, both anxious as to the chance of advertising? We are getting back to where we were before the famous carbolic acid theory was propounded; but medical science cannot fail to suffer from such insensate outbreaks of surgical fashion, nor can the contempt of all intelligent members of the profession be withheld therefrom. —*Med. Press and Circular.*

OBSTETRICS.

Ovarian Compression.—Since M. Charcot's description of cases in which compression of the inguinal region was associated with development or termination of an hysteroid attack, this association has been elevated to an immense importance, and the ovary has been enthroned in a position of almost absolute dominion over the female organism; the old dictum, "propter uterum solum," has been altered into "propter ovarium solum," without question; and the writers of text-books have vied with each other in paying homage to this small but omnipotent piece of tissue. Strangely enough, this homage has had for one of its results the wholesale elimination of the monarch from her dominions, and both medical literature and the museums teem with ovaries "out of place," the victims of spaying. It is worth nothing that M. Charcot speaks with far more caution than his followers, for he says ("Maladies du Systéme Nerveux,"2nd edit., Paris, 1875, p. 286): "Je pense que c'est I'ovaire qui est en jeu. Quoi qu'il en soit de son siége exact, cette douleur, que j'appellerai *hyperesthésie ovarienne,* est jusqu'á un certain point pathognomonique." We have before now expressed our opinion that the connection is founded on a very uncertain basis, for there is no good evidence that in any of the cases in question the ovary was compressed at all. It is interesting to learn that even the phenomena are, in England at least, far from constant. Dr. Gowers ("Epilepsy," 1881, p. 143) says: "The crucial test of Charcot—compression of the ovaries—is rarely successful in this country. An attack can scarcely ever be thus induced; and although it may sometimes be arrested by this means, the effect is not sufficiently constant to possess any diagnostic value." Again (p. 159): "Ovarian compression, which is so effective in inducing and in cutting short the attacks of hystero-epilepsy at the Salpétriére, often, as already stated, fails to produce a marked effect in patients in this country, although ovarian tenderness is by no means uncommon. In such patients evident distress, choking sensations, and even the feeling by which attacks are heralded, may be produced by compression of the tender ovary, but I have never known such pressure to produce an actual attack. Again (p. 160); "In the case of hysteroid attacks just described, in which the attacks were arrested by a ligature round the arm, Dr. Wilson on one occasion tried also ovarian compression. At first it had no effect, but after repeating it in several attacks, he found that it did arrest them, but even then less readily than compression at the epigastric region. At a subsequent time, however, the ovarian compression had no influence." The effects of M. Charcot's writings have been wide and far reaching; whether the work of Dr. Gowers will be equally so remains to be seen. We are not sure that it will be so, for experience shows that it takes little to start a new operation, but a great deal to stop it. In other words, that "impulsive" literature is more generally, surely, and rapidly read than "inhibitory." At any rate, the first sign of the spread of Dr. Gowers' experience will be, we take it, a diminution in the number of ovaries presented to the museums.—*London Lancet.*

Sutures in Recent Ruptures of the Perineum.—Dr. Veit advocates the immediate union of even the lesser ruptures of the perineum. To accomplish this there is a need of no elaborate armamentarium—only needles and scissors are necessary. Dr. Veit recommends to begin at the perineum with the sutures; avoid deep vaginal sutures, and all superficial ones are unnecessary. After bringing the rectal mucous membrane together, the needle is passed through the perineum behind the frenulum and carried along parallel to the rupture in the vagina to the end, where it is brought through the skin. Other deep sutures can be entered under this; superficial stitches, if necessary, are placed between the deeper ones. Chloroform is only necessary in cases that are not operated upon immediately post partum.—*Medical Press and Circular.*

A Rare Form of Pregnancy.—In a recent number of the *Archiv für Gynakologie* a case is recorded which, on account of its exceeding rarity, deserves notice. It occurred in the clinique of Prof. Litzmann, of Kiel, and is reported by Dr. Werth. It was one of pregnancy in the imperfectly developed horn of a bicorned uterus, the fœtus, fully developed, being retained beyond the full term. The patient was thirty-nine years old, and had had two children. She last menstruated in December, 1878. Fœtal movements were felt about the end of May, 1879. In the latter end of October the fœtal movements were unusually vigorous, and then ceased. Then came pain; and at the end of November, feverishness; sanious vaginal discharge, and wasting. She was taken into the hospital, and as, on examination, the os uteri was found large enough to admit the finger, and the fœtal head could be felt within it, the diagnosis was made that it was a case of retention of a dead child in the uterus. On February 14, laparotomy was performed; a decomposing, but fully developed, child was removed, and then the sac, at first supposed to be the uterus, which had contained the fœtus, was extirpated. On examination this sac was found to have only one set of uterine appendages. The patient died on the 16th from peritonitis. It was then found that the uterus was bicorned, the fœtus having developed in the right horn. The right kidney was absent. A corpus luteum was present in the right ovary. The author has only been able to find one case on record which at all resembles this, viz., one published by Turner. We may add that Dr. Barnes (in his work on Diseases of Women) has hazarded the speculation that many cases reported as extra-uterine gestation, in which fœtal bones, etc., were discharged per vaginam, were really cases like this one.—*Med. Times and Gazette.*

A NEW APPLICATION OF ELECTRICITY IN LABOR.—At an adjourned meeting of the Paris Academy of Medicine, Dr. George Apostoli read a communication on the above subject. He remarked that at present histology and clinical observation agree in attributing almost all cases of metritis or uterine engorgement to interrupted uterine involution. He therefore, proposes as a prophylactic agent in an affection which so often follows labor, the adoption of the following new therapeutic method. He thus expresses himself: A woman having been delivered, whether at full term or not, I immediately apply to her uterus a faradic or induction current, generated from a coil made from a short, thick wire, and of progressive intensity. In case of normal and full-term labor, I renew this operation eight or ten times within about six days. In cases of difficult or premature labor, I repeat it fifteen or twenty times through a period of from ten to fifteen days. My object is to aid, hasten, and perfect uterine involution, and thus avoid all the complications incident to slow or deferred convalescence.

The following conclusions have been reached by the study of thirty-two cases within the past two years, comprising eleven premature births and twenty-one full-term deliveries, during the course of which I have performed a total of five hundred electrizations of the uterus while in a gravid or puerperal state: 1. Faradization of the uterus is always absolutely harmless. 2. It invariably has a calming and sedative effect. 3. It greatly reduces convalescence by hastening the involution or retraction of the uterus, which, in general, from the sixth to the eighth day, can no longer be felt under the pubis. 4. By faradization the return and regular exercise of all the functions is accelerated. 5. The patient is spared all the uterine complications incident to labor. 6. Faradization is really a preventive treatment against uterine deviations and such consequences of labor as retroflexions or retroversions. 7. Its effects. I believe, are to reduce lochial discharges. 8. In presence of a faradic current of given strength, uterine contractility greatly varies, and is in the inverse ratio of its inertia. 9. Finally, the effects of faradization on the uterus, as compared with those of ergot, are undoubtedly more prompt and energetic.

In conclusion, I propose the introduction in obstetrical therapeutics, of uterine faradization in every case of labor: First, because it is a wonderful method, of easy application, readily controlled, rapid and energetic in its effects, always harmless, and capable of being applied or discontinued at will. And second, because its immediate effects tend to restore the patient's health, while it ultimately guards against all subsequent uterine complications.—*Med. and Surg. Reporter.*

OPHTHALMOLOGY AND OTOLOGY.

CILIO SPIAL CENTRES.—The existence of cilio-spinal centres has been lately the subject of discussion. Budge's discoveries were first called in question by Salkowski, who believed that cilio-spinal centres did not exist, but that cilio-spinal fibres arose in the medulla oblongata or higher. Francois-Frank has, however, after the method of Budge shown that cilio-spinal centres influencing the movements of the iris exists. Luchsinger by means of sensory irritations has shown that cilio-spinal centres exists. Tuwim, however, has thrown doubt on the experiments of Luchsinger, stating that after section of the spinal cord sensory irritations did not dilate the pupil. I have had a number of experiments upon this subject. Method: Cats were chloroformed, bound down, the cord divided just below the medulla oblongata and artificial respiration kept up by a respiration apparatus already described. After a rest of some time the sciatic was irritated by induction currents of a Du Bois apparatus, which was run by a Daniell cell. The external palpebral commissure was slit up, and the nictitating membrane and lower lid held away by weighted hooks. If now the sciatic was irritated the pupil was seen to dilate about two millimeters. When the cord centres were excited by another irritant acting on them through the blood, carbonic acid, then the pupil was also dilated. The cilio-spinal centres may be demonstrated to exist, I think, in another manner. If in a cat the left cervical sympathectic is cut and the cord divided high up, then if no spinal centres acting on the iris existed, the diameters of the pupils should be equal, but experiment proves that the pupil with the sympathetic intact is more dilated than the other. Here some influence through the cervical sympathetic from the cord is acting. It might be objected that the tonic influence of the stellate ganglion, or fibres still coming from the medulla oblongata caused the right pupil to be larger, but the left pupil was still under the the influence of the superior cervical ganglion. I think that it is fair to draw the conclusion that the right pupil is kept larger by the influence of the cilio-spinal centres. I have also made experiments to determine the path of dilating fibres of the pupil by sensory irritation. When in a cat I had cut both cervical sympathetics, and the sciatic was irritated, the pupil was dilated. When the first thoracic and superior cervical sympathetic ganglia were externated and the sciatic irritated, the pupil still dilated. When the gray matter on the surface of one of the cerebral hemispheres had had been broken up and the cervical sympathetic cut, then irritation of the sciatic dilated the pupil. When the gray matter of both cerebral hemispheres was broken up and both sympathetics in the neck divided, sensory irritation still dilated the pupil. When, however, the cerebrum was broken down to the base of the brain and the cervical sympathetics cut, the sciatic irritation was powerless. These experiments lead to the conclusion that fibres dilated the iris run in the trigeminus, and that the seat of the dilation is here, and not in the seat of consciousness, as held by Schiff. The sympathetic ganglia also have an influence on the diameter of the pupil. Francois-Frank and Tuwim have made experiments upon the point. I have also exsected these ganglia. When in a cat the right first thoracic ganglion is cut away from all spinal connection and the trunk of the sympathetic below it cut and the opposite sympathetic divided in the neck, then the right pupil will be found to be larger than the left. If now a section in the same animal experimented upon be made above the first thoracic ganglion, the diameter of the pupil will be the same. If the superior cervical ganglion on the right side is exterpated, then the right pupil is smaller than the left. If in young cats the right superior cervical ganglion is exterpated and the left sympathetic below the ganglion divided, then when the animal is coming out of the chloroform the left pupil is at the time larger than the right, but shortly afterward it is smaller than the right, and remains so for several days. If atropia is given it does not change the result. These experiments demonstrate that in the ganglia of the sympathetic resides a tonic influence for a short period over the pupil after they have no anatomical connections with the ciliospinal centres in the spinal cord. I have always shown by experiments upon rabbits that after section of a lateral column the pupil on that side contracted, showing that cilio-spinal fibres run in these columns and that section removes part of the spinal influence on the pupil.—*Isaac Ott, M. D., in Jour. of Nervous and Mental Diseases.*

EARACHE.—In the course of practice, you will often be called upon to attend a case of earache. This means, pathologically speaking, acute inflamation of the membrane tympani. Now, in such a case, you may quickly subdue the inflamation, relieve the patient from the excruciating pain he is suffering, and save him, perhaps, from subsequent confirmed deafness. The treatment from which such a desirable result may be obtained is similar to that which you will find so beneficial in analagous cases of eye disease, vis., leeches behind the ear, hydrag c. creta and belladonna powders, with warm fomentations.—*Prof. Wharton Jones, in London Lancet.*

RESORCIN IN AURAL SURGERY.—Dr. Rossi, of Rome, communicates to the *Archives of Otology* a note on the use of resorcin in aural practice. This substance, a parabioxy benzole, discovered by Hlaswitz and Barth in 1864, was introduced into medical practice by Andeer in 1877. Dr. Rossi has used it in more than 200 cases of perulent middle ear inflamation, and claims that no remedy at his disposal has given such substantial results in this obstinate affection as resorcin, He has used it *pure*, or in aqueous or alcholic solution, 4 in 100. He promises further records of results.—*Med. Press and Circular.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, February 11th, 1882.

Miscellany and News.

THE EYES IN INSANITY.—A truce to the nonsense, written and talked, about the "appearance of the eyes" as an indication of insanity. Excluding certain peculiarities with reference to the relative size of the pupils and the mobility of the irides, which, albeit they are not in the least degree understood even by the most erudite of experts, are commonly spoken of as pathognomonic signs of mental disease, there are no appearances of the eyes worthy of a moments serious consideration in the diagnosis of insanity. The "wildness," "unnatural brightness," "restlessness," "dullness," "vacancy," etc., which are so frequently mentioned in certificates of insanity, are utterly valueless as evidences of mental unsoundness. If the Commissioners in Lunacy were not either experts—in asylum practice—or lawyers, we should find the majority of certificates of lunacy rejected on the ground of their utter worthlessness. There is incomparatively more restlessness, vacuity, and the like in the eyes of the sane than in those of the insane. Ophthalmic investigations may be expedient, and, under certain morbid conditions of the brain, the deep structures of the eye may—though we cannot say must—furnish indications of disease. The pupils also may be affected; and, in obedience to the laws of blood-pressure, the eyeball may be turgid or flaccid, or it may, of course, be compressed or allowed to fall loose, and be more or less modified in its form by any morbid or disorderly action of the muscles that surround it when the patient is insane; but the conditions favoring these "appearances" are identical in the mentally diseased and mentally sound. Speaking generally, the expression, not of the eyes alone or particularly, but of the face as a whole, is apt to be misleading in insanity. When a settled or formulated expression has become fixed or habitual, the case has reached a point of development, or exhibits other symptoms, which render the mere "appearance of the eyes" of little or no moment in the diagnosis; whereas, at the outset, when the discrimination is difficult, this so-called appearance is more likely to lead the observer astray than to enable him to judge the state fairly. We are strongly of opinion that the evidence of "the eyes" should be excluded from certificates, and disregarded by those who have to determine the existence or non-existence of insanity. The clinical investigation of mental disease is just as precise and elaborate a process as the clinical examination of a case of physical disease. The scientific medical psychologist does not ask a few capricious questions, and either guess the state of the cerebrum or arrive at the truth by some intuitive genius. If he is what he professes to be, he tests each function of the brain separately, trying it by definitive tests and standards, and thus ascertains the condition of the organ as a whole. If science has not placed the brain on a footing with the liver and the kidneys as regards the study of its functions, it has done nothing. It is important that this should be clearly recognized. In a word, psychology is "physiology," so far as the physician is concerned; and no man can be anything else than a charlatan in mental practice unless he is a physiologist. — *London Lancet.*

New Remedy for Baldness.—In cases of confirmed baldness the new remedy proposed is to remove the scalp, bit by bit, and substitute, by skin grafting, pieces of healthy scalp, taken from the heads of young persons. The success which has heretofore attended operations of this nature in cases of scalp wounds gives a promising outlook for this new mode of curing baldness; and perhaps the day is not far distant when the shining pates of our venerable fathers will bloom with the flowing locks of youth.—*Independent Practitioner.*

Number of Physicians.—According to calculations made by the Medical Academy of Paris, there are at the present 189,000 doctors scattered over the world. Of these there are 65,000 in the United States, 26,000 in France, 32,000 in Germany and Austria, 35,000 in Great Britain and its colonies, 10,000 in Italy, and 5,000 in Spain. Putting aside pamphlets and memoirs innumerable, it is estimated that 120,000 works have been published on medical subjects. Of the writers 2,800 are American, 2,600 French, 2,300 German and Austrian, and 2,100 English.

Women Doctors in France.—From the Faculty of Paris, Madame Perrée, aged thirty-two, has recently obtained a doctor's decree. It is stated that she is only the second lady-doctor authorized to practice in France After being successfully treated by an American "doctress" in a severe illness she was induced to undertake the study of medicine with a view of entering the profession.—*Med. Press & Circular.*

Mr. Stephen Jenner, grand-nephew of the discoverer of vaccination, and himself in childhood the subject of many of his uncle's experiments, is living, at the age of eighty eight, in great poverty, at Heathfield, near Berkeley, England.—*Scottish American.*

The Contraction of Striated Muscles.—The nature of the changes which occur in the ultimate tissue elements of striated muscle during its contraction is a subject on which our knowledge is still imperfect, despite the study which it has received. New observations on the point have been lately published by Merkel. He describes the ultimate fibrillæ as consisting of short cylindrical elements, separated by the so-called "enddiscs" which optically appear as simple lines, but really consist of two plates united by a "cementing substance." The middle of the muscular element is occupied by the dark stria, anisotropic structure, which is divided by the still darker isotropic "middle disc." On each side of the dark band, limited by the so-called end-discs, is a layer of clear isotropic substance, of nearly fluid consistence. In the middle of this there is, in extended muscles, a streak of darker substance of variable width—the so-called "accessory disc" (Nebenscheibe). Lastly the muscular element is enclosed in a sheath, the existence of which can be demonstrated, although with difficulty. The dark transverse striæ of the muscle at rest consist, according to Merkel, of two different, but two intimately blended, substances. One of these is firm, dark in ordinary light, but singly in refracting in polarized light, and always changes its position in the course of muscular contraction. Hence it is designated "kinetic substance." The other constituent of the dark striæ is the well known doubly refracting substance which Merkel terms "disdiaclastic." The more or less fluid substance of the clear parts of the muscular fibre he terms the "muscle plasma." During the contraction the kinetic substance, which during rest is mixed with the disdiaclastic substance on both sides of the middle disc, presses towards both end discs, and there comes in contact with the contractile substance of the adjacent muscle elements. In consequence of this change of position of the kinetic substance the transverse striation lessens considerably, and there occurs an intimate mixture of the firm and fluid constituents of the muscular fibre. At the same time the plasmatic substance is taken up by the disdiaclastic, and causes the latter to swell. The change of place of the kinetic substance occurs in the same way in all muscular fibres, but there is a difference in the behavior of the swollen disdiaclastic material. It may remain accumulated on each side of the middle disc, or may accompany the kinetic substance towards the end-discs, so that the contracted muscles may present very different aspects. The decrease in length and increase in thickness of the contracting fibres, Merkel refers to the attractions of the end discs for the kinetic substance and the swelling of the disdiaclastic substance. The appearance of the "accessory disc" does not, in his opinion, indicate a constant independent structure, but the fissuring of the dark stria, which may be torn either in post-mortem changes or by strong *intra vitam* extension of the muscular fibre. In this situation there is constantly a slight excess of the kinetic over the disdiaclastic substance.—*London Lancet*

Bibliography.

EXAMINATION QUESTIONS.[1]

The examinations at the Medical College of Ohio are written, ten questions being submitted by each professor. Several years ago the publisher originated the idea of printing these in pamphlet form. The demand from students and practitioners has been so great and continuous that a new edition each year is now regularly awaited by large numbers of expectant buyers. With each year the volume, containing a hundred more questions, becomes of greater value than before. Over a thousand questions are now presented the purchaser in the different departments of medicine. The pamphlet is an invaluable aid to students preparing for examination and, if studied by the practitioner, will constitute the very best possible means of reviewing his former studies, and at the same time lead to a clearer knowledge of more recent investigations.

Obituary.

WM. T. BROWN, M.D.

At the regular meeting of the Cincinnati Academy of Medicine, on Monday, February 6th, the following preamble and resolutions were presented by a committee appointed for that purpose:

In the death of Dr. W. T. Brown the Academy has lost one of its pioneers. He became a member of this society August 3rd, 1857, five months after its organization and about an equal length of time after he had received his degree. On that night five others also joined the ranks of the young society. Of this number all but one have crossed the dark river. A greater portion of the twenty-five years of his membership he was constant in attendance and active in all his duties. He was three times Corresponding Secretary, twice Recording Secretary, and for four consecutive years Treasurer of the Academy. In this Academy, in the profession, and in the world he merited and received the honors which are due to the earnest worker and the charitable man. During the year that is just past Dr. Brown was President of the Cincinnati Medical Society and never missed a meeting. He was also Treasurer of the Obstetrical Society.

As an expression of esteem for the character of our late friend and colaborer and of our sorrow at his untimely death, your committee present the following resolutions:

Resolved, That in the death of Dr. Brown this Academy has lost a most worthy member, the profession a most zealous and conscientious worker for the alleviation of the sufferings of his fellow men, and the community an earnest, upright and useful citizen.

Resolved, That these resolutions be published in the medical journals of this city, and that a copy of them be sent to the family of the deceased.

A. G. DRURY,
C. O. WRIGHT,
A. E. HEIGHWAY,
Committee.

E. L. SHACKLETON, M.D.

DIED.—At Auburn, Cal., January 22, 1882, E. L. Shackleton, M.D., aged 42 years and 9 months.

Dr. Shackleton graduated at the Med. College of Ohio in 1867, standing among the best in his class. He entered upon the practice of his profession at St. Marys, Ohio, where he soon acquired a leading position. Several years ago, on account of failing health, he removed to Auburn, California, with improved health, built up a large and lucrative practice. About two years ago, he suffered the loss of his devoted wife by consumption, of which disease he was himself a victim. This bereavement greatly depressed him and from this time forth he was more or less an invalid until he passed away in the gentle quiet of a Sabbath evening.

Dr. Shackleton was an earnest student, an active worker, a skillful and assiduous practitioner. He was of exceedingly winning yet firm disposition and his character and habits were of exceptional purity. Those who knew him will universally attest a *real* loss to the profession and public by his demise.

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[1] Questions submitted to the Graduating Classes of the Medical College of Ohio, from 1871-2 to the present time. Cincinnati: Murry & Co., 219 Central Avenue. Sent to any address on receipt of thirty-five cents.

Clinical Lectures.

IDIOCY.

A Clinical Lecture delivered at the Hospital of the Good Samaritan.

By Prof. F. Forchheimer.

[Reported by James M. French, M.D.]

Gentlemen:—We have here a whole family, or at least, the greater part of one. All these three children are suffering from something; what it is we shall see in a few moments.

Family History.—The mother has had six children; one of these died from "congestion of the brain" at the age of twenty months. The two other children not here, are perfectly healthy. The mother has always enjoyed good health. She has lost some brothers and sisters, but does not know from what they died. She has two sisters living, perfectly healthy. Her husband died of consumption. He had two brothers and one sister, who are healthy; she does not know how many he may have lost. Her father lived to be very old. Her husband's father died of consumption; his mother is also dead. She was not related to her husband. She was born in Rheinish Bavaria. Her husband was also born in Germany;—in Prussia, she thinks.

All these points bear upon these cases. I am careful to ask where they were born. Why I am so particular you will see in a moment.

Case I.

Personal History.—Let us begin with the history of this oldest child. The first decidedly bad symptom was that when he was a year old and over, he could not walk or stand. He was sick a great deal. He had summer-complaint and various other diseases. As he grew older, he seemed to gain nothing in the use of his limbs. He began to talk when nearly six years old, but never made much progress at it. He usually behaves foolishly; that is, he does not act as a child should act. He eats well and of anything that is given him, unless it is improper for food, then he knows enough to refuse it.

As far as the history goes then, this child was born healthy, and was healthy, so far as his parents observed, until he attained the age of one year. After that they noticed that he was all wrong; that he did not behave like all other children; that he did not walk; that he did not begin to speak until he was six years old; and that the mother sums up the whole thing by saying that he is foolish.

Direct Examination. — The first thing that will strike you about this boy is, the peculiar expressionless face. He looks upon everything with a certain amount of stoic, quiet apathy, nothing seems to impress him much. He looks, but things do not seem to have much weight with him. Examining him a little more closely we find that he has a peculiar conformation of head. You notice that all that there is of his cranium lies between lines drawn from the os frontis above to the occipital bone behind. You see I can encircle with my fingers all there is of this boy's head. You will furthermore see that there is a very steep descent posteriorily, where the occipital bone lies. Otherwise if you would look at his head and not take into consideration this posterior declivity, it would not strike you as being very much out of the way. It may be safely said that there are a great many people walking about the streets with heads more deformed that this child's, who yet do not show symptoms of any trouble. What this is due to, we will see when we come to discuss the causes.

The next thing you do in examining a case of this sort is to examine the eyes. Looking at him as he sits there we see that there is a divergent squint; but we are not able to say whether there is paralysis or paresis of any other muscles than these internal recti, because his mind is not sufficiently developed to follow my directions. Now, as he puts his tongue out, you see a tongue that fills up his whole mouth;—a big, heavy, thick tongue. Otherwise there is nothing that is very much out of the way in regard to this face.

Now let us examine the extremities. The first thing that strikes us is the peculiar color of these hands. They are blue, intensely blue, such a color as you would expect to see in infantile paralysis. You examine a little further, and you find that the first finger on either hand is so contracted that it cannot be straightened. The arm itself, the elbow and the shoulder joints seem to be perfectly normal. So far as we can tell about the tendons, they are perfectly normal also. You see how he walks; he is very unsteady, and he walks with bent knees. Then, if we lift up these legs, you see that they are fixed permanently in a condition of flexion. We will now see whether we can fathom the depths of this intellect: [To the child.]

Ques.—What is your name?

Ans.—Josie ———

Ques.—Where do you live?

Ans.—In—a—house.

Ques.—Where is the house? Same answer.

Ques.—Do you like candy? Uhoo!

When I pinch this boy he says that it does not hurt; but if I pinch him suddenly, while I get him to close his eyes, he squirms—it does hurt. So much then for this case.

CASE II.

This boy is nine years old. He was not noticed to be abnormal until he was a year old. Then he got sick and suffered for sometime with intermittent fever. He never began to walk at all, and cannot walk now unless led. He speaks better than the other boy. In all other respects the history of this boy is the same as that of the other. He answers questions much like the other. We have here, too, the same peculiar conformation of the head; it is perfectly straight behind. If you draw a line straight up from where the ligamentum nuchæ ought to be, you see that it describes the flat surface of the occipital bone. There is here a tendency to convergerent strabismus. Again we have the same contraction of the hands. The thumbs are both contracted, and the forefingers also slightly. We find the same condition of contraction in the knees. His tongue is big also, but by no means so heavy as the other boy's. He has also some sensation, but says it does not hurt when he is pinched. Now we have a third case here.

CASE III.

This child was three years old, January 1st. The mother has noticed in it almost the same difficulties as in the other children, so it is not necessary to detail to you the history; but it is important for you to observe closely the results of the examination in each case, because we have then the steps of the development of the consequences of this disease. Now, these children had not much trouble in cutting their teeth. But they got the *upper* front teeth first. That is the rule in these cases. They get two teeth in the upper jaw first, then two in the lower jaw, and after that some of the other teeth.

The second child here got one upper tooth, then one lower, then some of the back teeth. It is not necessary for us to go further, except to tell you that it is stated by those who have observed a large number of these cases, that the upper front teeth come first, and furthermore that the teething after that is very irregular, so irregular that you can put down no laws regarding the order of teething; no one can tell you which tooth is to come next.

All of these three children pass their urine involuntarily — they "wet themselves." They also pass their feces involuntarily. There is, then, complete paralysis of all the sphincters in all three cases. This youngest boy is only three years old, but the anterior fontanelle is so firmly closed that you would hardly suppose he had ever had one; there is not a vestage of one. We have again this peculiar form of head, but not so well marked in this child as in the others.

Now, perhaps, you are aware that in the very young child the occipital protuberance is not so well developed as is the anterior. The squint we have observed in the other children is quite well marked here. The paralytic contracture is quite well marked in this child's thumb of both hands. The paralytic contracture of the knee is well marked on the left side, but is not so pronounced on the right. The sensation is much diminished, but is not entirely gone.

Now, to sum up these three cases, we can say that we have three cases of a nervous disease before us. Why? Because we have lack of motion, almost complete in the lower extremities, incomplete in the upper extremities; complete in the child whose case has gone on to the furthest development, incomplete in the youngest one. We have a nervous disease because the sensation is impaired, and because the development of the intellect is much lower than in the normal condition in a child of this age. Now comes the question: where is this lesion, and what kind of a lesion is it? In the first place, to make the diagnosis more easy, there are two kinds of cases in which we have this impairment of the intellect; one class being called idiots, the other class being called imbeciles. Now how do we draw the line of distinction between these cases? American and French authors draw the line, in that idiocy is a congenital affection, imbecility an acquired affection. According to this, we have three idiots before us; three cases of idiocy. The German authorities draw the line a little different. They claim that if a man's intellect is so developed that he is capable of being taught, that he is capable of protecting himself against others, such a case must be called imbecility; whilst if they can no longer be taught and are not capable of protecting themselves, they are idiots. According to this division, we have to call them imbeciles. But we will yield to the classification we have made and say that we are dealing with three idiots. Now comes the question of etiology; of the cause. What is the cause of idiocy? What is the cause in these children? As causes of idiocy, a great many things are put down. All those changes in the mother that would produce an effect upon the fœtus. Changes that prevent the complete development of the brain. Changes that are produced by inflammation, as a result of this, atrophy; as a result of this, destruction of the brain substance. Atrophy of the brain. Hypertrophy of the brain. Hereditary tendency. A certain endemic influence; besides that specific disease, syphilis. These are about all the changes we can enumerate to which we can positively attribute idiocy. When under the head of atrophy I include premature synostosis of the sutures.

In the first place, heredity. Heredity plays a most important role in the production of idiocy. And I have no doubt that in this family if we could look far enough back,—but we cannot do so, for the mother was brought to this country so long ago that she knows nothing about her relations—we would find that there is some hereditary tendency. Dr. Oehlschlägel tells me that there is in this case a hereditary influence. The half-sister of the children's father—from the same mother—was an idiot. But aside from this, if we could hunt up the history of this family we could without a doubt find some other trace besides this one; and I say that confidently because there is no other cause to be detected. And besides, an accidental cause could not produce idiocy in so many children of the same family. And I have further no doubt that in those regions in which cretinism is endemic, heredity plays just as important a part as does miasm, or whatever it may be to which are attributed so many causes of idiocy. And let me tell you more about this cretinism or endemic idiocy. It is found in certain parts of Germany, in certain parts of Bohemia; in certain parts of France. These idiots are characterized in the first place by want of development of the cerebral functions, and in the next place by the immense hypertrophy of the thyroid gland. It seems that whatever it is that effects the brain, it also effects the thyroid gland so that it enlarges. They, as a rule, have small heads; they are microkephaloi.
like those children Barnum had on exhibition for a certain length of time, which he called Aztecs. These people always live exclusively from others; they inter-marry, and the result is that the idiocy never dies out. It is said that if a stranger comes to that country and the inhabitants observe him they say that he is without one of his limbs, because he has not this enlargement of the thyroid gland. This gland becomes so much enlarged that they not only have to carry it in a bandage, but frequently have to throw it over their shoulders. It is said that not only human beings, but some of the lower animals have this enlargement, and it is also stated that if strangers come to the country and live there a certain length of time their thyroid glands become enlarged. These are the only things that convince me that this cretinism is due to something more than mere heredity. Because if you take a community that is cooped up and has no contact with the outer world, and that has to start with low intellectual development, and then let them inter-marry for a number of generations, you can easily see what they would soon be. Then it is stated that premature ossification, of the sutures and fontanelles causes idiocy, and I have had occasion to show you in the other clinic an idiot whose trouble was due to this premature ossification of the fontanelles and sutures. If the angle made by drawing a line from a level of the ear forward to meet

another line drawn from the nose were 60° these children would be characteristic Aztec children, because they have the other elements—the pushing up of the whole brain-mass towards the vault of the cranium. How does this occur? It occurs through a premature synostosis of the junction of the sphenoid and occipital bones. You know the sphenoid bone has been called the sphenoid because it is the wedge, and if this should become ossified, the brain could no longer be pushed down, and so it is in this case, and all of it has to go up. Now, for illustration, if there is at the same time an ossification of the sutures, as there is in this case, and a complete ossification of the fontanelles, as we have also, in these cases so complete that you can detect no suture near the place where the fontanelle was, then of course the brain has to cease developing because it can no longer press upward and develop in all directions, on account of the facts that below the occipital bone is joined to the sphenoid and above the cranium is all closed so that the pressure must react upon the brain itself, causing atrophy.

There are those on the other hand, who say that the premature ossification is not the first thing to occur but that it is the result of lack of development of the brain, and you can see how this may be true; how the premature ossification may be due to the fact there is no pressure there; that the brain does not want to enlarge itself.

There are in addition to these a great many other reasons given, too many for me to consider at the present time.

If you take out a brain of this sort, you will find a great variety of changes. In the first place, the primo-ordeal cysts on either side have not developed properly into brain mass, but have remained cysts, and you cannot expect a cyst to perform the function of brain-cells. Then you will find that the convolutions of the brain are not those of a well developed brain. You will find that the gray and white matters are well developed, but you will find that the relative divisions are not those belonging to man, but to some of the lower animals, especially to the ape. Then there are deformities in the brain itself. One part is well developed, while the other side is not. You will find the two sides united together. There is no corpus callosum. There are also, a great number of changes which it would take me too long to enumerate. There are changes of size, of quality and of development.

Now what is the cause of this idiocy?—what is the pathological cause? There is in the first place, abolition of motion. We have, in the next place impairment of sensation. We have then a very low order of intellect; so we can say that in all probability the whole hemisphere, or both hemispheres are affected. The intellect being affected, of course makes it positive beyond a doubt that the lesion is in the hemispheres. What the nature of this lesion is we cannot say—beyond this we cannot go. We can exclude certain forms of disease. We can exclude, for instance, hypertrophy of the brain. Hydrocephalus is not present; specific disease is not present; but we cannot say, for instance, that there are not two cysts taking the place of these hemispheres, except that this change is rather rare. We can say with some approximation to certainty that atrophy of the brain has not occurred in these cases, and we say, judging from the form of the head, that there has taken place a premature synostosis at the junction of the occipital and sphenoid bones, but we cannot say whether this is due to any disease of the cones or to disease of the brain.

In regard to treatment we say very little. The principal thing is to make the diagnosis for yourselves. For the patient such a thing as a cure is impossible. But some of these children may be made comparatively good members of society. Of course in cases like these, you can do very little good for them because you cannot get them to do any manual labor. You will find men who can do good work in some directions, and yet who are comparative idiots in others. Take for example some of the great mathematicians who could make great calculations and who were comparatively idiots in other respects. There are persons of this kind who can cultivate a good memory. There are cases reported of persons who could remember the history of certain houses for ages, but yet were idiots. The only thing that can be done for them is to endeavor to teach them some thing.

These children ought to be placed in a proper institution where they can be taught to speak and to do certain kinds of work.

TREATMENT OF CHRONIC SUPPURATION OF THE MIDDLE EAR.

CLINICAL REMARKS BY

PROF. W. W. SEELY, M.A., M.D.,
Eye and Ear Clinic, Medical College of Ohio.

GENTLEMEN:—I have been illustrating to you day after day—and you have been able to follow up the results—the way I manage purulent otitis media chronica. You see from the number of cases of this class that present themselves every day that it is a very common affection, and, I may still say, remains an opprobrium otologicum.

As I have so often remarked, the indispensible condition in this disease, as in every purulent state, is cleanliness.

You have heard our patient remark that the aurist who had been treating her *had syringed the ear.*

This process is as bad as it is unnecessary and inefficient. The struggle is to get rid of parasitic growths, and nothing could interfere more than syringing as ordinarily carried out, simply using warm water. If an *aseptic* solution is used, there is comparatively little objection, except that it is annoying to the patient and delusive to the surgeon, for it does not clean always.

Absorbent cotton and the probe are the most convenient and efficient methods, and for a long series of years the syringe has not been used at my clinic in this class of cases, and I no more think of it than I do in a case of purulent ophthalmia.

After thorough cleanliness is obtained by the cotton, the next step is to inflate the ear either by the balloon or catheter, after which the cotton must be used again to remove, if any, the discharge blown from the middle ear. After these three steps have prepared the parts, the next one is to prevent a reaccumulation of pus.

In a word, we are in the presence, in all of these cases, of a membrane septically infected—a membrane colonized with schizomycetes, and hence our therapeusis must be *anti*-septic. Anyone will readily understand the difficulties of rendering of such treatment effective without wandering off intothe realm of mystery for explanation. They lie largely, if not exclusively, in our inability to get at the parts involved. Our object is really to prevent *decomposition*, by either killing the parasites or by preventventing further ingress of new ones.

There are doubtless many agents equal to the task, but unfortunately they are liable to do harm.

The remedy you see we use, and first employed in the ear by Bezold, is perfectly bland and unirritating, and marvelously efficient.

The acid ordinarily obtained as a powdered crystal does not fulfill the conditions, as it irritates; hence, you must use Morson's impalpable powder. You must bear in mind that a small portion of the mucous membrane is quite sufficient to afford a nidus in which these schizomycetes can multiply, and when you reflect the out-of-the-way nooks and corners afforded by the arrangement of the parts in the middle ear, especially when the mucous membrane is swollen. You will readily understand that even if this remedy were a specific, failure would be possible. Often it is sufficient to simply blow in some of the acid and afterwards pack the meatus full.

You will remember, though, one of the reasons I have so often given for the success of solutions, *that they reach every part of the diseased surface.* I have long been in the habit, if the powder was not sufficient, of putting in a quantity, then of dropping in enough absolute alcohol to dissolve some of it, carrying this into every corner, and, as the alcohol evaporates, the membrane is left covered. This plan will often succeed when the powder alone fails. Alcohol alone is one of the most toxic remedies to growths of decomposition, and furthermore, doubtless, plays a very important *role* in contracting the succulent membrane.

You will remember the statement in regard to its action in causing soft polypi to disappear, made by Politzer.

For quite a period I have been confining myself to the plan and remedies shown.

Fourth and Broadway, January 20, 1882.

VIVISECTION received the most powerful defence in the December number of the *Nineteenth Century.* Sir James Paget, Dr. Wilkes, and Professor Owen argue for liberty in scientific research. The absurdity of the English law is well illustrated by a statement of Sir James Paget. He says: "I may pay a rat-catcher to destroy all the rats in my house with any poison he pleases, but I may not myself, unless with a license from the Home Secretary, poison them with snake-poison.

Original Communications.

ARTIFICIAL EAR-DRUM.

By C. A. LeBoutillier, M.D., Cincinnati, O.

A Small piece of cotton moistened with water was first used by Yearsley in 1845.

The following description was published by him in a pamphlet three years later:

"The object of the cotton pellet is to support the remaining portion of the drum membrane, or the ossiculæ. A small piece of wool, differing in size according to the case, and fully moistened with water, is introduced through the speculum to the bottom of the meatus, and adjusted superiorily, inferiorily, anteriorily or posteriorily, its position depending on the situation of the perforation, and other circumstances connected with the case; but care must be taken that the entire opening be not covered, otherwise the experiment will not succeed. It is also indispensable to success that the moisture of the wool be preserved."

The same year Tonybee introduced the artificial drum, made of vulcanite, advancing the theory that the resonance of the tympanum must be preserved by making it a perfectly closed cavity. He found that the hearing of patients was improved after the use of the syringe or a handkerchief. In the former case the orifice in the membrane was filled by a bubble of water; in the latter of discharge. On destroying the bubble, the improvement in hearing, which it had caused, at once disappeared. He decided that the increased perception depended on the confinement of the sonorous undulations in the tympanic cavity by the bubble.

The manner in which the artificial drum effects the improvement in hearing is not simply dependent on its mechanical action.

The theory that it tightens the relaxed joints of the ossicles by pressure will not hold good, for there is as much improvement with only a remnant of the stapes remaining. In some cases pressure upon the lower part of the malleus will improve the hearing, and yet in others the same result is attained by pressure upon the short process.

A pellet of cotton saturated with a mixture of glycerine and water—one part to three—gives the best results, and, without doubt, much of its usefulness is in its therapeutic action.

A quantity of secretion will dry in the niches of the windows, especially the round window, causing obliteration of the membrana tympani secundaria, and clog up the joints of the ossicles, with consequent loss of hearing.

The best state for perception is when the membrane is moist and red, with neither too much or too little discharge; and in this condition the moistened pellet has proved useless. But when the parts are dried up, with mucous scales clogging the joints, the application has been of benefit, the improvement being perceived usually some little time after the introduction of the cotton. Patients frequently remark the fact that hearing improves when there is an increase of discharge, probably because at that time there is a softening of the dried scales, and lubrication of the joints.

Otorea must first be cured by the application of astringent remedies. The insufflation of pulverized boracic acid, with frequent cleansing, answers the purpose best.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of January 30th, 1882.

THAD. A. REAMY, M.D., *Pres't in Chair.* W. H. WENNING, M.D., *Secretary.*

REPORTS OF CASES.

Dr. Ransohoff presented to the Academy a case of

Chancre of Both Lips.

Which he considered of great interest on account of the rarity of the involvement of both lips simultaneously with this disease. The patient, a married female, aged about thirty-five, gave no definite clinical history, but the nature of the disease was settled beyond a doubt.

DISCUSSION.

Dr. Whittaker remarked that he had heard of the case at the time, but was incredulous of the expressed nature of the disease on account of its great rarity. He thought it might be eczema or carcinoma. The examination of the case left no further doubt as to the true disease. The appearance of the spots and the enlargement of the lymphatic glands confirmed the diagnosis without the necessity of any further clinical history. These conditions are regarded as a *sine qua non* of the disease. The appearance of the lesion by itself could only give rise to a question between chancre and cancer, and indeed in some instances these diseases have been confounded. A chancre may occur at all ages but is more frequently seen in youth than later in life. This case is almost unique in being on both lips. Cancer usually attacks the lower lips. The character of the sore is also different in the two affections. Chancre does not present a distinct ulcer but an abrasion or erosion. Another point is the constitutional effect of treatment; cancer not being influenced by the administration of any salt of mercury. All writers concur in saying that chancre occurs more frequently in women.

Laryngeal Diphtheria.

DR. CLEVELAND reported the following two cases of pseudo-membranous inflammation of the larynx occurring in the same family and which, in his estimation, were an illustration of the identity of membranous croup and laryngeal diphtheria.

On January 5th he was called to see a little girl aged six years. She had labored respiration from laryngeal obstruction, temperature normal, pulse 100, croupy cough. She had been suffering this way for three days, but was getting worse each day. There was no enlargement of the neighboring glands about the neck. Pressing down the root of the tongue some white membrane was visible about the epiglottis, but higher up in the pharynx no exudation could be seen. Here appeared to be a case of membranous croup, pure and simple; there was no enlargement of the glands, no fever, no evidence of blood-poison. She even had an appetite, her condition was good with a single exception there was laryngeal obstruction. He thought the case suitable for the administration of turpeth mineral, which he gave in emetic doses at repeated intervals and each time with apparently good effect. Shreds of membrane would be ejected and the child for the time breathed more easily which gave hopes of limiting the exudation. Also liq. ferri persulph. was applied locally. In spite of all that could be done the disease continued to grow worse, and in twenty-four hours after the first visit the child died of apnœa. In the death certificate he called the case laryngeal diphtheria. The case answered in every particular to what is called membranous croup and without the sequel it most assuredly would pass for that.

Five days afterwards, January 11th, another child, four years old, in the same family, was taken sick. It had a temperature of 101°, the submaxillary and glands of the neck were enlarged, there were exudative patches on the fauces, and the child was drowsy and prostrated. The speaker immediately swabbed out the throat with persulphate of iron, ordered salicylic acid and bisulphite of soda and commenced spraying the throat with a solution of quinine grs. xxx to the ounce. This treatment was faithfully kept up to the end. In this case the exudation extended into the larynx and during the last twelve hours of the child's life there was very marked laryngeal dyspnœa. In twenty-four hours the child died. This event was due to the diphtheria, but was hastened by the impeded respiration.

These cases were reported because they pointed to the unity of croup and diphtheria. That the first was diphtheria was confirmed by the second following it in such close succession. The first might have been croup and the second diphtheria, though under the circumstances this was quite improbable. The question of the unity or duality of these affections cannot be settled so easily as by a report of two such cases, but, occurring as they did, they confirmed the reporter in his original opinion. The treatment in these cases reported and (in the speaker's experience) the treatment in all cases of laryngeal diphtheria, or of malignant diphtheria of whatever form, has been eminently unsatisfactory.

DISCUSSION.

DR. RANSOHOFF observed that while he had no objection to raise to the medical treatment he thought that tracheotomy might have given one of these children, at least, a chance of life. It is true the operation stands in bad repute on account of the great fatality following tracheotomy. The speaker himself had seen eighteen cases of tracheotomy performed in one winter and they all proved fatal; but these were cases of blood-poisoning. These children had no rosy cheeks and no good appetite, but had fallen away gradually, consequently they did not die from want of breath, but from the poison of the disease. Even in most desperate cases of blood-poisoning, however, the operation gives the patient a chance of pure air, which antagonizes the blood-poison if the opening be made below the diseased spot. Where, however, the patient has kept a good color to the last twelve or twenty-four hours and where the danger was chiefly local, tracheotomy must be performed. Here is given the greatest chance for recovery.

DR. WHITTAKER said that although he regarded and taught diphtheria and membranous croup formerly as distinct diseases he now believed in the theory as expressed by Dr. Cleveland in a general discussion in the Academy about a year ago, that the latter affection is in reality laryngeal diphtheria. The existence of genuine croup is, however, thereby not to be denied. When a child breathes in an irritating vapor (steam of water, chlorine, ammonia), it may be followed by croup. We may also have a false membrane in the air-passages without its being necessarily diphtheritic as in plastic bronchitis. These, however, are rare exceptions; generally the disease is diphtheritic, as is illustrated during the prevalence of epidemics. The identity of the two diseases is not a new discovery, however; as long ago as 1825 Bretonneau promulgated this theory. But it never received any absolute confirmation until in the last few years. A few years ago it was discovered that diphtheria was due to the presence of a parasite, the *microsporen diphtheriticum*. With this revelation the disease became as distinct as trichinosis, which depends on the presence of its own parasite, the *trichnia spiralis*. The diagnosis no longer rests on the character or situation of the membrane. The true criterion of the disease rests on the presence or absence of the parasite which, when present, is invariably revealed as such by the microscope. This fact has been established in Europe and also in this country; Wood, among others, in recent investigations having settled this question beyond a doubt.

Diphtheria is at first local and then general. In the cases reported the disease was local, there not having been time for general infection. It is difficult to treat the membrane when it is situated in the larynx; a remedy must not damage the tissues and consequently an agent which might be used with success in the pharynx will prove useless in the larynx. It was not necessary to recall the position the speaker took on the subject of local treatment when he so strongly advoted the application of the persulphate of iron in a paper read before the Academy about a year ago. This remedy is, however, inapplicable where the disease has reached the larynx, as it would, even when it could be introduced, be too irritating. He still held the opinion that it is the best remedy in diphtheria of the pharynx. But even here it may disappoint us if the disease is not a simple diphtheria, as is instanced in the following case. About one week ago the speaker was called to a sick child with a temperature of 104¾°, with the presence of a false membrane in the throat. He applied the persulphate of iron thoroughly, but on the next day the condition was the same as before. This being the first case of the speaker in which this remedy seemed to have failed, the course of the disease was watched with great interest. On the night of the same day the eruption of scarlatina appeared, which relieved the remedy of reproach so far as this case was concerned. When the blood poison is intense we may probably have no effect also from the persulphate of iron. Its beneficent action applies only to pharnygeal diphtheria; for the laryngeal form we have yet to discover a remedy. The only possible local remedy worthy of the name is tracheotomy. A child may even then succumb but under entirely different circumstances, death resulting from blood-poisoning and not from suffocation. Possibly the persulphate of iron might be applied through the tracheotomy tube. To sum up generally we can only say *persulphate of iron for the pharynx and tracheotomy for the larynx*.

Dr. Mitchell remarked that he could not yet accept the theory that diphtheria and croup are identical or that in croup we have the same elements as in diphtheria. This opinion is shared by many equally good authorities as Flint, Smith, Wood, etc. Croup is undoubtedly a sthenic local inflammation resulting from wet and exposure to cold and is not epidemic; diphtheria is an acute infectious disease attended with albuminuria, followed by paralysis and is generally epidemic—these points are diagnostic. In diphtheria the blood poison is the first element of the disease and the membrane is a secondary manifestation. Any irritant application to the membrane will make matters worse. In croup the membrane is formed by an oozing of the plasma of the blood from the vessels and differs microscopically and chemically from the diphtheritic. Tracheotomy can be of benefit only in croup cases because there is no blood-poison. The speaker never used local agents in diphtheria as astringents, in his opinion, do harm; he relied altogether on large doses of alcohol in the form of whisky or brandy frequently repeated.

Dr. Whittaker made the following reply, 1, the statement that croup is not epidemic is not true; 2, nor is it true that croup is never followed by paralysis; children die of croup as a rule before there is any paralysis and diphtheria is not always followed by paralysis. The sequelæ in both diseases may be the same. As said before not every case of croup is diphtheria; we have a diphtheritic and non-diphtheritic croup, the latter being only a catarrhal inflammation. Croup, however, may occur during attacks of diphtheria. It has lately been demonstrated by Koch that the virtues of alcohol do not reside so much in its antiseptic properties. The only antimycotic of any efficacy known at the present time is the bichloride of mercury which is said to kill germs in the proportion of 1 : 300,000. The virtue of mercury in general lies in all probability in its formation of the bichloride when introduced in whatever form into the body. Chloride of zinc and carbolic acid—especially the latter when diluted with alcohol or oil—are of little if of any value as germicides.

In answer to the theory that diphtheria is *first* a constitutional and then a local affection, the speaker replied that he could recall no modern authority adhering to such a view. Letzerich and Oertel, the latest writers on this subject, maintain just the opposite view. Adverse opinions come from the older writers. It is most important to have a theory, because however much theory may be derided, the history of every disease shows that therapy is based upon it. In the case of diphtheria, however, its pathology is now established beyond any mere theory, and diphtheria must soon be shelved away, along with trichinosis, etc., as a known disease.

Dr. Cleveland observed that the objections to the identity of these diseases have been answered before. Membranous croup and diphtheria are the same; catarrhal croup is not a fatal disease. The array of authorities he considered no argument because it is our object to settle this point from actual observation. Clinically the two diseases are the same and if any differentiation is possible it is by the microscope in discovering the specific germ.

In answer to the gentleman that opened the discussion for not having performed tracheotomy, the speaker would reply that the records are so unfavorable that unless the patient be placed under very favorable circumstances it is no use to operate. Of the two cases reported only the first was adapted for the operation but the circumstances were not favorable. The parents of the child were unwilling to believe that the child was in actual danger and therefore would object to any such a procedure, especially if he could not gnarantee a certain cure. If the child had died after the operation he would have had to bear the censure. Very few physicians will, under such circumstances, have the moral courage to proceed under such opposition. Nevertheless he was also of the opinion that if the operation did not insure life it "let the patient die easily." In the second case he was confident that the constitutional manifestations were of such a nature as to preclude any operative interference. Certain cases of the malignant type are so grave that you almost feel no good can be done and this was one of these. They will die.

Dr. Whitraker said that he fully recognized the responsibility that rests upon a physician and the difficulties he may encounter if his proposed means of cure should not meet the expectations or should excite the prejudices of the family. The speaker too had seen children die where tracheotomy could probably have saved a life. People will naturally attribute death to the last agent used. He had desisted from the hypodermic injection of morphine because fatal effects were wont to be attributed to the agent last in use. At present, however, if the family refused an operation like tracheotomy when he considered it necessary, he would relinquish the case.

The persulphate of iron when applied locally in diphtheria is not a new remedy but the reason it has not sustained its reputation is because it has been used in too weak a solution. It must be of a syrupy consistence and not used with timidity but with a bold hand and pushed freely behind the palate, where the sponge or probang saturated with this agent will be clutched and compressed by the muscles of the palate, whereby the solution is expressed and distributed over the whole pharynx. The false membrane becomes yellow and is removed in shreds and flakes; what is left is innocuous. Its action consists in preventing the absorption of the poison by the mucous membrane, consequently where the system is already supersaturated there can be no hope.

A late method of getting rid of the tough membrane is to rub it off with the finger.

Dr. Reamy said if it be true that the iron has the power of killing the germ, then the experiments of Koch, as quoted by the speaker, do not hold.

Dr. Whittaker replied that he was speaking of external agents. What he claimed for the persulphate was the mechanical detachment of the membrane and condensation of the mucosa. It was his opinion that bichloride of mercury might be used locally. He was now experimenting with this agent in catarrhal inflammations, as in a common cold, by local applications, spray, douche, etc., and hoped to be able soon to publish some good results. The virtue of calomel and the yellow oxide in conjunctivitis rests probably alone upon the fact of its development into the bichloride.

Dr. Ransohoff observed that bichloride is well known as a parasiticide in skin affections.

Dr. Cleveland said if this chemical change be the virtue of calomel the treatment of the older clinicians was perhaps entirely rational. This agent in small doses cured the worst case of diphtheria the speaker ever had. If Dr. Whittaker's theory was true the chemical change mentioned by him might have been the reason. Is it not probable that the action of the turpeth mineral, though it is a violent emetic, may be similarly explained?

Dr. Reamy reminded the speaker of the epidemic in 1855 where mercury was recommended and the mortality was nevertheless fearful.

Dr. Whittaker concluded the discussion by saying that the whole success of treatment must depend on specific agents. One germ cannot be changed into another; each has its specific entity. As we will discover a germ in the different infectious diseases we will gradually find its corresponding germicide. The vague cause as attributed to cold from exposure is becoming more and more limited.

Correspondence.

VACCINATION.

Editors Lancet and Clinic:

In a recent discussion before the Academy of Medicine in your city upon the "Complications of Vaccination," I was not a little surprised that only one member present, out of the number of intelligent observers, should have seemingly struck the *key-note* to a correct explanation of the unfavorable results of vaccination occurring in the practice of his colleagues. And I was equally surprised that Dr. Whittaker did not dwell with sufficient emphasis upon this point, so as to impress the medical gentlemen with the importance of ascertaining as far as practicable from the family history of their complicated cases what part "the soil and not the seed" played as a factor in these complications.

Heretofore writers upon "vaccination and its alleged dangers" have devoted their time and attention almost exclusively to the discussion of the nature and varieties of the virus used, and the possibility of infection through non-purity of the virus, whether animal or humanized, in this way they have been led away to a great extent from a legitimate source of inquiry, and I would suggest that the medical journals throughout the country call for contributions at large from physicians with special reference to this feature of vaccination.

The recent outbreak of smallpox having aroused the people in every city, town, hamlet and district in the land to the importance of protecting themselves against the ravages of this terrible scourge by this discovery of the immortal Jenner. I doubt not if there be a physician even the most remote country neighborhood who could not, if he would, contribute some facts in his own experience upon a subject of such general interest to the medical profession. By such a procedure I am confident much valuable information could be gathered that would go far toward relieving the practice of much of the odium that is now being attached to it, not only by the laity but by many, be it said to their shame, of the medical fraternity and laying the burden of the evil where it properly belongs, at the door of a tainted constitution.

One case in my experience will go towards sustaining the view of Dr. Whittaker. About four weeks ago Mr. P. and his daughter called at my office to be vaccinated. A quill was divided in half, one piece being used for Mr. P. and the other for his daughter. In due time they reported it as taking. An examination showed vaccinia in both. The daughter's ran through the regular stages without any complications. Not so however with Mr. P. His arm became highly inflamed, swollen and painful. Poultices and emollient applications were ordered, but without any relief. The surfaces for two or three inches around the seat of vaccination became indurated and of a dark purple color, little pustules began to form over this surface, the tissues finally broke down, suppuration set in and the lancet had to be used to give free exit to the pus; local measures were kept up, but with little or no relief; the ulcer now became phagadenic in character. At this juncture he admitted he had several years since contracted syphilis, but he supposed it had all been eliminated from his system. I then placed him upon constitutional treatment in addition to local measures and he made a rapid recovery. One or two other instances occurring in the practice of other physicians in town was traceable to the same cause. From this experience I had concluded before reading the above discussion not to vaccinate any person whose history showed constitutional syphilis, feeling assured that these complications would not only occur but that vaccinia would be aborted. Mr. P. contracted syphilis since the birth of his daughter. A. H. Garnett, M.D.

Oswego, Kas., February 11, 1882.

A MONSTROSITY.

Editors Lancet and Clinic:

Mrs. G., a stout, healthy country-woman, aged thirty-four, of German descent, supposed herself to be in the eighth month of gestation. On the 11th of the present month (February), while about her household duties feeling as well as usual, a gush of water came from her which was immediately followed by copious hemorrhage. I saw her a short time afterward. She had no pain but her bed and clothing were saturated with blood. On examination the vagina was nearly filled with blood clots. The os uteri was dilated to the extent of about two inches in diameter and partially closed by the placenta. The fœtus was beyond the reach of the examining finger. I immediately gave her fluid extract ergot ʒi, and in thirty minutes, there being but slight contractions, the dose was repeated, which soon brought the much desired pains. The placenta was pushed upward and held there until the contractions of the uterus forced the fœtus down against the os and I then learned that the breech presented. There was comparatively no bleeding afterward and the labor was terminated in about an hour and brought to light one of the most disgusting looking objects it has ever been my lot to see. The limbs were natural except talipes which existed in both feet. There was no neck, its head being wedged in between the shoulders. The face was on the top of the head, the mouth was round and resembled that of the fish known as a "sucker," the eyes were also round and prominent. The bones of the cranium were all present, but from the back of the head there was a curtain of flesh attached which hung down the back about four inches. This covered a triangular space whose base was beneath the attachment of the curtain and entirely devoid of cutaneous covering. The penis was rudimentary, about half an inch long, and about the size of a rye straw. There were no signs of life, but the mother assured me that she had felt its movements a short time before the membranes ruptured. She could not assign any cause for it, although rigorously questioned on the subject, and so far as her recollection goes the so-called transmitted maternal impression will not obtain as a factor in this case. This was the eighth labor. Respectfully, Daniel J. Smith, M.D.

Clark's Prairie, Ind., Feb. 13th, 1882.

Selections.

MEDICINE.

The Influences that Predispose to Pulmonary Consumption.—In the course of the discussion of an interesting paper upon the "Pre-Physical Sign Stage of Phthisis," read by Dr. Eskridge at the last meeting of this Society, the question, What constitutes a predisposition to pulmonary phthysis? arose. This question remained unanswered, and it was, indeed, but indirectly connected with the subject at that time occupying our attention. It nevertheless appeared to me to be a practical and suggestive query, and therefore not lightly to be passed over. The recognition of the peculiar liability to special forms of disease which constitutes a predisposition, in individuals, families, or comunities, falls properly within the scope of preventative medicine, and is therefore, from a practical point of view, even more important than the recognition of such diseases themselves when established, just as prevention is proverbially better than cure. In the case of a disease so common, so intractable, and so progressively fatal as pulmonary consumption, the question of individual and family predisposition assumes the gravest importance. Upon its answer frequently depend interests of the greatest magnitude,—the choice of a career, of place of residence, marriage, a life of usefulness and comparative health on the one hand, or, upon the other, blighted prospects, illness without reasonable hope of cure, an early grave.

My object in reading this paper is to discuss briefly and in a manner rather suggestive than exhaustive the influences which predispose to pulmonary consumption. It is only fair for me to state at this point that I have no new facts to communicate, hoping rather to call forth, from the unrecorded experience of those present, facts that have escaped the observation of the majority.

We encounter on the threshold of our inquiry two questions, which must be answered before we go on with the discussion.

First, what is meant in general by *predisposition* to disease?

I venture to so modify the deffinition of Dunglison that it should read thus: "Predisposition, that constitution or condition of the body which renders it peculiarly liable to disease under the application of an exciting cause."

The time-honored method of text-books, which divides causes into *predisposing* and *exciting*, has been a source of endless confusion and perplexity. Leibermeister, writing of the etiology of the infectious diseases; has suggested that the expression "predisposing causes," as tending to clearer views of the origin of diseases. Every attack of disease must be due to an exciting cause; predisposing influences may render the individual less or more prone to the action of the exciting cause, but no degree of predisposition can of itself, in the absence of the exciting cause, give rise to disease. It is a matter of common experience that individuals strongly predisposed to pulmonary consumption escape that disease altogether, and ultimately perish of other affections, or even of old age, whilst, on the other hand, persons in whom the closest scrutiny fails to bring to light any distinct predisposition whatever, contract the disease under the direct action of some one of its well-recognized exciting causes.

The second question is not so readily answered. What is pulmonary consumption?

By common consent, both among medical men and others, this term is universally used to designate chronic wasting diseases in which the principal symptoms during life and the principal lesions found after death are associated with progressive destructive changes in the lungs. But these diseases present clinically an endless variety of cases differing among themselves in the mode of orgin of the disease, its progress, duration, and the grouping of the symptoms. So that, whilst we are fully agreed as to the meaning of the term pulmonary consumption in general, when we come a little nearer and attempt to define the disease with accuracy, and especially when we attempt to classify the cases into separate, well-characterized groups, we are met with difficulties that are practically insurmountable. No writer, as far as is known to me, has yet succeeded in framing a succinct description that would include all cases, or in so grouping the varieties of pulmonary consumption that his classification would fulfil the requirements of all the cases met with in every-day practice.

This is, without doubt, due to the fact that the variations in the clinical history of the disease and in the anatomical changes encountered in the lungs depend in part upon variations in the intensity and duration of the inflamatory processes localized in the lungs, and in part upon those constitutional tendencies which determine the character and degree of reaction to the primary irritation and infection, the pathological problem in the advanced stages of the disease being in every case a very complex and difficult one.

Here, however, as elsewhere in pathology, morbid anatomy sheds light upon the subject. This light was for a long time, during the early investigations into the nature of tubercle, very dim, and served to make the darkness in which the subject was enveloped visible, rather than to dispel its shades. It has, however, steadily gained in brightness until the pathology of pulmonary consumption is now comprehensible, and an outline classification of the cases upon the basis of the preponderance of certain anatomical lesions has become possible.

The essential lesions consists in the changes brought about by inflamation, and are, in general terms, of three kinds, corresponding to the tissue involved in the inflamatory process. They are:

a. Chronic inflamatory processes in epithelial structures—catarrhal pneumonia.

b. Chronic inflamatory processes in lymphatic structures—tubercle.

c. Chronic inflamatory processes in the interlobular connective tissue—interstitial pneumonia.

The lesions due to these three processes are to be found in most, if not in all, cases. They are present in varying proportions, now one, now another predominating, most frequently no single lesion being conspicuously in excess of the others. When, however, any one of three processes has throughout the case constituted the principal morbid factor, the clinical aspect of the disease is usually so modified as to distinguish it from the general picture of pulmonary consumption, and to enable it to refer to one or another of three separate groups. These are,—

A. Catarrhal phthisis.

B. Tubercular phthisis.

C. Fibroid phthisis.

And they embrace many, but by no means all, of the cases.

Regarding pulmonary consumption in all forms as an inflamatory affection, I look for its exciting cause, in all cases, in some irritant. This irritant may come from within or from outside the body. It may consist of the non-expelled products of a simple catarrhal inflammation called forth by changes in temperature, or by blood, or mucus, or pus, drawn deeply into different portions of the lungs during the inspirating effort of cough; it may consist of that obscure product of caseation which, borne in the lymph-channels or in the blood itself, is capable of causing those changes in the lymphatic tissues which have been named tubercle, and in this instance it may be derived either from a caseous mass in the individual himself, or exceptionally from a similar disintegrating nodule in the lungs of a close companion, for in this way alone is it possible to explain the well-proven facts of the direct transmisssibility of consumption; finally, the irritant which is the exciting cause of the disease very frequently consists of minute particles of solid matter swept into the lungs upon the air-stream for long periods of time, as happens in many trades and occupations. There are without doubt other irritants capable of inducing chronic inflamation of lung-tissues, and thus playing the role of exciting causes of consumption, that are as yet involved in great obscurity, or altogether unknown.

The vast majority of individuals are constantly exposed to these exciting causes. According to Hirsch, two-sevenths of all deaths are due to consumption of the lungs. The concurrence of the predisposition and the exciting cause underlies the enormous prevalence of the disease; the the absence of the predisposition explains the escape of multitudes. It is to be borne in mind that many who are predisposed to pulmonary consumption die of other affectious early in life, or, at all events, prior to the development of the disease.

The problem of preventative medicine is to recognize the predisposition in the individual, in order that he may be as far as possible removed from the action of the exciting causes.

Of race and national predisposition it is hardly necessary to speak. No race or nation enjoys exemption. The hybrid races ar conspicuous for their predisposition to consumption. So notable is this fact that mulattoes are debarred from the privileges of life insurance.

Climate in general terms does not constitute any especial predisposition to consumption. There are localities in all zones the inhabitants of which enjoy a relative immunity, yet there is no belt of the earth in which it is not very prevalent. From this we may infer that neither the continuous warm temperature of the tropics, nor the alternating seasons of the temperate zones, nor the perennial low temperatures of cisarctic regions constitute a predisposing influence,—in short that temperature, of itself, is inoperative. It is, however, established that those dwelling where the air is dry, even if it be cold, are less generally predisposed to consumption than the inhabitants of moist regions: those dwelling in uniform than those in changeable climates, and those in elevated regions than those living in low levels, the death-rate per thousand from this disease rapidly diminishing as we recede from the coast-line of mountainous countries.

As we approach the consideration of the inflence of restricted locality, of occupation, mode of life, diet and previous diseases, we are brought face to face with the fact that the conditions which in the individual go to form a predisposition to consumption are:

First, a more or less marked vulnerability of the elementary tissues of the lungs; and,

Second, the tendency of inflamatory processes to run a peculiar course, and to result in products which do not proceed normally either to resolution or to supuration, but remain stationary, or undergo retrograde changes of a cheesy nature.

These conditions are either hereditary or acquired, and the influences which tend to produce them are the influences which predispose to pulmonary consumption.

First, and of primary importance, is heredity. In view of the fact of the transmission of the same traces of face and form and the same mental qualities in families through generations, and that such transmissions are the rule rather than the exception, it can excite no wonderment that constitutional tendancies to disease, or even peculiarities of bodily organs or tissues, are handed on from father to son.

The influences of heredity may manifest itself from childhood in a vague delicacy of constitution, or in the form of scrofula, or it may exist as a taint lurking under the semblance of the most perfect health. In many instances the children of consumptive parents present types of health almost ideal, until some depressing influence, physical or moral, lights up the smouldering tendencies to a desructive fire.

The hereditary predisposition may be derived from parents not themselves the subjects of the disease. Thus, the offspring of feeble parents or of near kin, or of old men, or the younger members of large families, where the interval between the bearing of children has been short, often inherit a strong predisposition to consumption.

Closely related to the subject of heredity is that of the influence of the conformation of the chest. Various alterations in the contour of the thorax have come to be recognized as indicative of tendency to consumption. The varieties of departure from the typical form of the thorax that have been described by writers are the alar or pterygoid, the flat or paralytic, the transversely constricted, the pigeon, and the rickety. These sub-typical forms are in part inherited, in part congenital, and in part acquired early in infancy in consequence of disease, malnutrition, or errors in management. They give rise to diminished capacity of the thorax, and limited respiratory movements, and are associated with arrest of development and early rigidity of the costal cartilages.

Marked alterations of the chest acquired later in life in consequence of errors in dress, of the cramped postures or vicious pressures of certain handicrafts, or of the enfeeblement of the respiratory muscles due to sedentary habits or prolonged illness, also exert an important influence.

Closely associated with the subject of enfeeblement of the muscles of respiration is that of diminution of the vital capacity of individuals predisposed to consumption. Hutchinson established by extended experimental research the fact that in healthy persons there is a minimum of so-called vital capacity, varying according to the age, sex, height.and body-weight. Persons unable to attain this minimum, though in other respects healthy, are prone to develop chronic destructive diseases of the lungs.

There is yet another condition, more frequently inherited than acquired, the influence of which must not be overlooked. I refer to habitual feebleness of digestion and inability to properly assimilate fatty substances. This condition manifests itself by spareness of body, easily provoked intestinal indigestion, and an habitual dislike for, or inability to partake of, fatty articles of food. So well recognized is this as a predisposing influence that at least one observer (Dr. Dobell) has promulgated and brilliantly defended an hypothesis of the pathogenesis of pulmonary consumption based upon it. The hypothesis is substantially af follows. In consequence of deficient supply or defective quality of the pancreatic juce, and of the secretion of the liver and the intestinal glands, the food-fats are imperfectly digested. The blood does not supply the fat-elements required for oxidation, does not replace those taken up during interstitial nutrition, but, on the contrary, takes up the interstitial fat to compensate the deficient supply from the food. This having reached a certain point, the fat elements of the albuminoid tissues are seized upon, and these tissues are minutely disintegrated in the process. The result of this disintegration of albuminoid tissue is, Dr. Dobell thinks, true tubercle.

The conditions effecting the lung-tissues that predispose to pulmonary consumption are frequently acquired by the action of influences that tend to depress the bodily forces. It is merely necessary to refer to the familiar facts of grief, prolonged anxiety, the long watching of beloved relatives in fatal illness, imprisonment, and the like, or to those of unfavorable occupations, or to such diseases as measles, whooping cough, certain forms of pneumonia, diabetes, or to misadventured or too frequent child-bearing, and unduly prolonged lactation. I name these merely to complete the outline of the sketch which you have done me the honor to listen to at such length.—By Jas. C. Wilson, M. D., in *Medical Times*.

The Use of Ammonia In Pulmonary Diseases.—At the meeting of the Royal Belgian Academy of Medicine, April 30th, 1881, M. Melsens presented a memoir on the therapeutic applications of ammonia. He concluded, from the fact that phthiscal patients are benefitted by inhaling the vapors of carbonate of ammonia emanating from stables, that the continuous and moderate inhalation of that salt would be efficacious in other pulmonary affections. He accordingly made the experiment upon himself during an attack of bronchitis, by wearing in a bag attached to his shirt, several pieces of ammonia carbonate. Having been completely cured in a few days by this treatment, he subsequently employed it in his practice, with uniform good results. He also applies the remedy directly to the respiratory passages by means of the spray, with equal success—*Bulletin de l' Academie Royale de Medicine de Belgique.—Am. Digest.*

Therapeutic Observations in Typhus Abdominalis,—The course of treatment is a follows: At the beginning of the rapid rise of temperature in the afternoon or evening, the child is wrapped in wet sheets and lightly rubbed, and this repeated at short intervals until there is a perceptible degree of temperature. Generally four or five wrappings are neccessary. Then a large dose of quinine is given (0.5 grm. to 2. 0 grm.). In the most favorable cases the temperature on the next morning is normal, or subnormal. This is the effect desired, and when once attained it will usually be found that the wet packings alone will reproduce it on successive days. So soon as this normal temperature is attained the increasad nourishment must begin, and after a day or two further increase will be possible, and so on, from day to day. until sometimes even during the fever, full diet may be given.

It was found that the earlier in the case the treatment was begun the better was the result. It seemed also to work better the younger the children. In older children cold baths were used instead of packings. The quinine was given in wafers so as not to upset the stomach. The author gives thirteen cases, with temperature curves, which seem to justify his positions. He admits that in the normal course of a typhoid fever there is, towards the second half of the case, a remission of the fever and bettering the symptoms, even without treatment; but his point is that by energetic antipyretical measures we may move this point forward to the very commencement of an attack. He makes two definite conclusions:

1. In most cases of typhoid, especially in young children, the temerature may be so controlled by antipyretic measures that the typhoid manifestations disappear.

Early nourishment not only does no harm, but re-supplies the loss of weight from the fever either in part or wholly during the febrile stage, thus reducing to the minimum the stage of convalescence.—J. Kaulich, in *Jarbuch. f. Kindhlkd.—Am. Jour. Obsts.*

Aconite In Remittent Fevers.—Dr. Gerald Bomford writes to the *Practitioner* (London) The good effects of aconite in this class of fevers may be summed up as follows:

1. It reduces the temperature.
2. It reduces the rapidity of the pulse, and makes it full and strong.
3, It cleans the tongue and restores the digestive functions.
4. It induces sleep.
5. It increases the quantity of urine, and seems to have a direct effect in removing the symtomatic congestion of the kidneys.
6. It promotes perspiration. I may add that it is exceedingly grateful to the palate of a fever patient.—*Am. Practitioner.*

Digitalis Preparations.—Dr. Fraenkel has tested the action of various preparations of digitalis. He finds that the tincture and the acetum exert, like the infusion of digitalis, a stimulant action upon the inhibitory nervous system of the heart and on the vaso-motor centre. There is, however, a difference in degree in the action of the three preparations. The tincture is the least trustworthy. The dose of the infusion and acetum requisite to produce the effect varies according to the individuality of the animals and other conditions. The acetum digitalis is the most powerful. — (*Charitè-Annalen. Praktische Arzt.*, No. 4.)—*Practitioner.*

SURGERY.

Intestinal Resection.—Prof. Czerny communicates (*Berl. Klin. Woch.*, No. 45, 1880), three cases of intestinal resection which he has performed. In two cases, the gangrenous coil of intestine in a strangulated hernia was resected; and, in the third case, a malignant tumor of the colon was removed. In one of the first two cases the patient recovered perfectly without fever or reaction of any sort; in the second, the already pulseless patient died during the operation in a fit of fæcal vomiting. The third case was the most remarkable. A female, 47 years old, with a tumor in the abdomen, diagnosed as intestinal cancer, had vomiting and diarrhœa. On operation, there was found a large tumor of the transverse colon, firmly attached to a coil of the sigmoid flexure. Part of the sigmoid flexure was first resected, the ends being brought together with thirty-three sutures; then a large piece of the colon was removed, and the ends united by twenty-six sutures. Lastly, a wedge-shaped piece of the mesocolon was removed, also necessitating ligatures. A drainage-tube was inserted, and the wound in the abdominal wall closed by means of four deep and eight superficial sutures. The patient recovered, and was living half a year after the operation, although, from the infiltratration of the mesenteric glands, recurrence is inevitable. Dr. Czerny proceeds as follows: The intestine being compressed above and below, the diseased part is removed along with the corresponding wedge of the mesentery. The ends are now disinfected, and a double row of carbolized silk sutures applied. Those in the first row include about a twelfth of an inch of the serous and muscular layers of each end of the intestine, and are about a twelfth of an inch apart. A second row of sutures, about a fifth of an inch apart, are applied over and partly including the first. The intestine is then returned into the abdomen and antiseptic dressing applied. —*Chicago Med. Journal and Examiner.*

Treatment of Hydrocele by Injections of Chloride of Zinc.—Impressed by the favorable results obtained in the treatment of sebaceous cysts with injections of chloride of zinc, Borck employed this procedure in a case of hydrocele of the spermatic cord, which he had previously tapped several times without permanent benefit. A few drops of a five per cent solution were injected by means of a hypodermic syringe. This caused slight smarting, which lasted but a few minutes. The patient was kept in bed during the succeeding twenty-four hours. For a few days there was moderate sensitiveness on pressure over the hydrocele, but both swelling and pain rapidly subsided, and by the twelfth day the tumor had entirely disappeared, leaving only a slight thickening of the spermatic cord at the site of the injection. Even of this no trace was left after the lapse of about five weeks.—*Centralblatt für Chiurgie.—Med. Digest.*

Results of Nerve-Stretching in Locomotor Ataxy.—From a review of 19 cases of nerve-stretching in locomotor ataxy, Dr. John Cavafy, of St. George's Hospital, finds the following results:

In 17 of the 19 it was markedly beneficial or even curative so far as the pains were concerned. In the great number this was brought about by one operation. In three the relief was confined to the territory of the operated nerve; in one the pains disappeared from the part operated on, but increased elsewhere. The ataxy itself is said to have been cured in 4 cases only; in 8 it was diminished, strikingly in 6; in 4 there was no improvement, whilst in the remainder the result is not stated. It appears probably therefore that benefit is to be always expected from the operation so far as the pains are concerned, but that the prospect of improvement in the ataxy is much less certain. The operation has not been followed by any injurious results beyond a temporary paralysis. Langenbuch prefers gradual extension kept up until a distinct effect is produced on the pulse and respiration.—*British Medical Journal,*

Wm. R. Warner & Co. may justly be regarded as the veteran manufacturers of sugar coated pills. Always reliable, elegantly prepared, they have attained a reputation that always rates them first class.

OBSTETRICS.

Some Comparative Observations on the Blood in Chlorosis and Pregnancy.—It has long been known that the puerperal state is associated with well-marked changes in the composition of the blood. According to the analysis of Becquerel and Rodier and others the blood in pregnancy contains a relatively large quantity of water, the red corpuscles and albuminates of the serum are diminished, and the number of leucocytes is increased. Cazeaux[1] described the pregnant state as one essentially analogous to chlorosis, and more recently Quinquad[2] has pointed out that a progressive fall in the quantity of hæmoglobin in the blood takes place throughout pregnancy. From a normal quantity of about 120 grammes in 1000 cubic centimetres of blood the quantity of hæmoglobin in most pregnant women descends to 67.70 grammes, or even 62.50 grammes per 1000 cubic centimetres. In healthy pregnant women, he states, however, that the quantity may not fall below 83.54 grammes per 1000 cubic centimetres. To the condition of pregnancy he has accordingly applied the term "chlorose puerpérale." A considerable diminution in the quantity of hæmoglobin in a given volume of blood is undoubtedly present in both pregnancy and chlorosis, but more particularly in the latter. The present series of observations was made partly to determine how far an analogy existed between the well-defined blood change of chlorosis and the blood state of healthy pregnancy, and also to compare more precisely the mode in which the diminution of the coloring matter of the blood, common to both conditions was produced. The large majority of the present cases were applicants at the out-patient maternity department of King's College Hospital; they were mostly young and fairly healthy, and were mainly selected as having been free from any intercurrent sources of anæmia, such as severe vomiting, frequent abortions, and the like. The method of examination by the chromometer and numerator of Hayem (the latter as modified by Dr. Gowers) was the same as that employed by Dr. Baxter and myself in our former observations on clinical hæmometry, which were published in the *Lancet* some years since.

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[1] Traité de l'Art des Accouchements, p. 481.

[2] Chimie Pathologique, recherches d'hématologie clinique, pp. 239, 250.

The following cases have been arranged according to the period of pregnancy. The number of red blood-corpuscles per cubic millimetre, and the relative functional value of the individual corpuscle according to Hayem's scale, have also been appended. The standard color of Gower's hæmoglobinometer is a somewhat lower tint than the chromometric scale of Hayem which was used in the present observations, and consequently in some cases where comparative observations were made with the two scales, the relative hæmoglobin value of the individual corpuscle was found to be from ·1 to ·2 higher with the former than with the latter instrument.

* * * * * * * *

In the large majority of the cases there is a more or less decided fall below normal in the number of red blood-cells per cubic millimetre, but the functional value of the individual corpuscle remains high. The total amount of hæmoglobin in a given amount of blood is diminished, but this diminution depends on a general lowering of the number of the red cells in the given volume, and not on any impoverishment of the individual corpuscle. In other words, the red cells are rich in hæmoglobin, but they are diminished in number, and consequently a given volume of the blood in pregnancy will on chemical analysis yield a smaller weight of hæmaglobin than the same volume of normal blood. The observations of Quinquad have shown this to be the case.

In the puerperal state the vascular system undergoes a considerable and progressive enlargement, and assuming that the number and functional value of the red cells of the unimpregnated condition were to remain constant throughout pregnancy, a progressive dilution of the blood would necessarily ensue. Such an assumption will explain both the hypocytosis or diminution in the number of the red cells in pregnancy, as well as the absence of hypochrosis or diminution in their functional value. The enormous loss of blood from which some women suffer during parturition with comparative impunity may be explained on the same hypothesis, the greater serous dilution of the blood permitting the organism to lose a far larger quantity without injury than in the normal, unimpregnated state. These observations, therefore, appear to point rather to an excessive increase of the fluid of the liquor sanguinis in pregnancy than to a condition of pure anæmia, which is usually considered to co-exist with it. It will be noted also that in those cases in which continuous observations have been made for two or three months, a slight progressive fall in the number of the corpuscles has taken place. The white cells of the blood did not appear to have undergone any decided increase in my own observations. In twenty-two cases in which they were counted there was an average of about 1 white to 595 red corpuscles; the highest number was 1 white to 184 red, and the lowest 1 white to 1,650 red.

The blood condition of chlorosis is in striking contrast to that of healthy pregnancy. In chlorosis there is always a well-marked impoverishment of the hæmoglobin value of the individual corpuscle. The number of red cells is very variable. They may be almost of the normal standard, or fall considerably below it; but in all cases which have come under my observation before treatment with iron the loss of color has been far more decided than the diminution in number. Hypochrosis and hypocytosis co-exist in chlorotic anæmia, but the former is always in excess of the latter. A reference to the following cases of chlorosis, where the blood was examined previous to the exhibition of iron shows at once the relatively low value of the individual corpuscle.

No. of case.	Age.	No. of red corpuscles per cubic millimetre.	Hæmoglobin value of individual corpuscles.
1	19	2,870,000	·37
2	19	2,240,000	·35
3	16	2,460,000	·51
4	22	3,700,000	·50
5	17	4,010,000	·46
6	18	4,140,000	·35
7	16	4,370,000	·46

The foregoing facts appear to warrant the following conclusions:

1. That a more or less considerable diminution of hæmoglobin is found in both pregnancy and chlorosis, especially in the latter, but that beyond this fact no obvious analogy exists between them.

2. That in pregnancy the diminution of color is due to a fall in the number of red cells, and that the individual cell remains of high value. In chlorosis both the cells and the individual value are reduced, the latter being in excess of the former.

3. That the blood-state of healthy pregnancy is due to a large relative increase in the water of the plasma, and that this condition does not constitute a true anæmia, but is due to the progressive enlargement of the vascular area during pregnancy.—Frederic Willcocks, M.D., *London Lancet.*

DRAINAGE IN RUPTURED UTERUS.—We learn from the London *Medical Times and Gazette* that two cases in which this usually fatal accident was successfully treated by drainage, are reported in a recent number of the *Centralblatt für Gynäkologie*('80, No. 26). Oneis reported by Dr. Morsbach. The patient was aged thirty-five, and had had four children, the last five years previously. Labor came on at full term. When vigorous pains had lasted five hours, the midwife ruptured the membranes. After this the patient, who had till then been standing, felt herself obliged to lie down, and the pains ceased. Three powders obtained from a chemist, were given to bring on pains, without effect. Ten hours after the rupture of the membranes Dr. Morsbach saw the patient. The os uteri was about eight centimetres in diameter, and the feet could be felt presenting, but high up. A dose of ergot was given, without effect. The patient was then narcotized, and it was discovered that there was a rupture of the vagina and cervix uteri, and that the child was in the abdominal cavity, except one foot, which was within the uterus. The foot was seized and the rent carefully enlarged by numerous small incisions with scissors, till it would allow the child to be extracted. The hand was then inserted, and the placenta, which was in the peritoneal cavity, was removed. Two thick caoutchouc drainage tubes were put into the rent, and a pad of salicyl wool between the thighs. Slight pyrexia followed, lasting a little more than a week, with abdominal tenderness and tympanites. One drainage tube was removed the next day, and the other on the fourth day.

The patient got up on the fourteenth day. Fourteen weeks afterward she thought herself quite well. There was then a deep fissure in the cervix posteriorily, the botton of which could not be reached by the finger, and a cicatrix in the posterior vaginal wall. Dr. Morsbach thought it possible that the midwife may have ruptured the uterus when she thought it was only rupturing the membranes, for she admitted that she had found great difficulty in doing what she did.

The other case occurred in Berlin and is reported by Dr. M. Graefe. The patient was in labor with her thirteenth child. The pains continued for six hours and then suddenly ceased. An hour afterwards she was found in a state of collapse, the face presenting, an arm down in front and a foot behind. Incomplete rupture of the uterus was diagnosed, and the patient was removed to the hospital. When she got there it was plain that the child was in the abdominal cavity, the contracted uterus being felt in front and to left of it. The hand was introduced, a foot seized, and the child extracted; then the placenta was removed. The uterus was found ruptured transversely, only about three fingers' breadth of its wall remaining entire; the peritoneal cavity contained much clotted blood and meconium. It was washed out with a 2½ per cent carbolic acid solution, and then a thick drainage tube, thirty centimeters long, put into the abdominal cavity and secured by a silk suture to the posterior commissure. A bandage was put around the abdomen, and on it an ice bladder. During the first tvo days the pulse was hardly perceptible. Hiccough and vomiting were troublesome during the first five days. The temperature did not rise till after the sixth day, when she began to have evening exacerbations of fever, which continued until the beginning of the fourth week, after which the temperature remained normal. After the sixth day the parts were irrigated from one to three times daily, through the tube, with a 2½ per cent solution of carbolic acid. The tube was removed on the thirtieth day. The patient left well on the thirty-fifth day.—*Phil. Med. and Sur. Reporter.*

PROLAPSE OF THE UTERUS.—M. Guéniot gave an account of five personal observations of prolapse of the uterus treated by uniting the posterior and anterior walls of the vagina (*Cloisonnement*), by the operation practiced by M. le Fort. M. Després considered that every operation made to restore the uterus to its position was useless, for the real cause of prolapse was the insufficiency of the perineum. The perineum is composed not only of skin but muscles, and it is to the weakness or insufficiency of these last that prolapsus is to be attributed. It suffices to make the patient cough to recognize this fact. M. le Fort could not accept this theory of M. Després; on the contrary he considered that the perineum had nothing to do with prolapse of the uterus. M. Trelat was of the same opinion, and believed that the operation of M. Després (suture of the inferior third of the vulva) as worse than useless.—*Medical Press and Circular.*

TREATMENT OF VULVAR PRURITUS.—M. Bernier (*Journal Med. et de Chir. Pratiques*), after trying all forms of application in a case, found the most benefit was obtained from the following unguent:

℞. Ung. diachylon simpl. (Fr. cod.), ol. olivæ, āā equal parts. M.

On the other hand, M. Delaporte, recommends, in the same pruriginous affections, the following lotion:

℞. Sodæ carbolat., ʒ ss.; aquæ colon., ℥ iiss.; glycerinæ, ℥ iiiss.; aquæ, ℥ x. M.

Lotions with this wash should be made whenever irritation is intense, and particularly at bedtime. The liquid should be applied cold, with a fine sponge.—*Medical Digest.*

OPHTHALMOLOGY.

OCULAR SYMPTOMS FOLLOWING THE INGESTION OF UNSOUND MEAT.—The *Revue des Sciences Medical* gives an abstract of an interesting paper published by Leber in the *Archiv. für Ophthalmologie.*

Although some cases of paralysis of the ocular muscles following the eating of stale sausage are reported in ophthalmic journals, still sufficient attention has been given to it by general practitioners. Leber who has observed many cases does not hesitate to declare that the ocular symptoms are characteristic, and occur with such certainty that cause of the trouble may with certainty be diagnosticated.

He reports a case where a family consisting of a father, mother and a son were attacked with vomiting half an hour after a meal of soup and sausage. During the day the patient complained of great weakness, a burning sensation in the throat and an excessive thirst. These symptoms became worse the next day. Soon the salivary secretion ceased, and the mouth became so dry that it was impossible for them to chew or swallow solid food without moistening it.

Following these symptoms there appeared great hoarseness, a dry staccato cough, constipation, stupor, and a staggering gait. Finally ocular symptoms set in, ptosis, diplopia, and mydriasis manifesting themselves. The lachrymal and nasal secretion entirely ceased, and the skin was dry and pale. A child twelve years of age who was the most ill and in whom there was complete ptosis of the left eye, died on the second day, presenting all the symptoms of œdema of the lungs. No organic lesion was found on post-mortem examination, and trichinæ were searched for, but not found.

In all the cases the ocular symptoms appeared the second day of the disease. On the fourth day they had attained their maximum intensity, and they persisted longer than the other symptoms. Ptosis was present in all three cases. The pupils were dilated and did not react to light, and in the father complete paralysis of accommodation and myodriatis presented for eighteen days. The use of eserine in the eyes had a good effect, and three weeks later the paralysis of accommodation disappeared.

The most striking effect in these cases is the coincidence of paralysis of accommodation and of the pupil, with an arrest of the secretion of the sweat, saline, tears, etc., or the remarkable similarjty between 'the symptoms as presented in the cases above mentioned, and those which occur in atropia poisoning.

There are some points of difference it is true; but the phenomena observed in the two cases are so near alike that it justifies us in believing that the poison produced in the first stage of decomposition is not wholly unlike atropine.—*La Presse Médicale.*

On the Use of Sulphide of Calcium in Strumous Ophthalmia. — The good effects resulting from the use of sulphide of calcium in the sores of scrofulous children, and in other affections associated with this diathesis, have been particularly insisted upon by Ringer. It is now my purpose, however, to speak of its value in "strumous ophthamlia." Under this head I allude to phlyctenular and pustular conjunctivitis and keratitis, the characteristics of which I need not further mention. In many of these cases, when other remedies have been used for some time with little or no benefit, the sulphide of calcium has proved of great service. I do not know if it has been much, if at all, recommended in this class of cases, but I was led in the outset to employ it by noticing its beneficial effects in other scrofulous affections, and this especially in the practice of my friend Dr. Dyson.

The sulphide will be found particularly serviceable in those cases of children with manifest strumous habit. enlarged cervical glands, swollen face, the eyelids tightly closed, photophobia, and where, on opening the eyes, a gush of hot tears is emitted, and examination of the ocular surface discloses one or more phlyctenules on the cornea, or it may be merely increased vascularity of conjunctiva. These cases treated by the ordinary constitutional and local remedies are often tedious, but with the sulphide of calcium, coupled with the usual applications to the eyes, such as atropine and warm fomentations of poppy, or what not, frequently quickly yield a happy result. In other cases also of phlyctenular conjunctivitis or keratitis, and not alone in children, the good effects of this medicine are conspicuous. Of course, like all other drugs, it will be hardly likely to be suitable for, or to benefit, all cases, but I have now employed it with good results so frequently that I am quite satisfied as to its being a useful remedy. After little or no benefit with steel in its various forms, and codliver oil. the rapid recovery often after the substitution of the sulphide has been astonishing. The mode of administration is generally in the form of a powder, and from gr. $\frac{1}{10}$ to gr. $\frac{1}{2}$ of the sulphide, with a few grains of sugar of milk, are given about three times daily. In this way children take it readily.—Simeon Snell, in *The Practitioner.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, February 18th, 1882.

Miscellany and News.

THE Medical College of Ohio Alumni Association will hold its annual meeting in the College Amphitheatre on Wednesday, March 1st, at 3 p.m. The annual address will be delivered by Dr. Geo. B. Evans, of Dayton.

THE Commencement Exercises of the Medical College of Ohio will take place at Music Hall on the evening of Wednesday, March 1st.

Academy of Medicine.—Dr. William Judkins will read an essay on "Aspiration of the Knee," at the next meeting, Monday, February 20, 1882.

Smallpox.—At this time, especially, the following report from the St. Louis Smallpox

Hospital may prove of interest. It is made by Drs. F. A. Kauffmann and Jos. Grindon, physicians in charge, and based upon several months experience:

The use of the antiseptic Listerine in our service at the Quarantine Smallpox Hospital. has been highly beneficial. Locally, we apply it in different solutions, under different conditions, generally 1 part Listerine, 1 part water. In the secondary stage of smallpox, a combination of half Listerine, half glycerine, forms an excellent dressing for the face and hands; it cools wonderfully, and almost entirely prevents the excessive and annoying itching and irritation.

In very malignant cases of variola, secondary abscesses frequently form; after having opened these, we put our patients in a bath, adding to it one bottle Listerine with, we admit, remarkable success. We also obtain excellent results with Listerine in decubitus sores, which so frequently occur with patients suffering long confinements to bed.

Its agreeable odor makes it peculiarly valuable as a disinfectant for the hands and person of the practitioner, and when sprayed throughout the sick-room, or around the bed clothing, affords additional relief to the patients.

Our experience justifies us in recommending this pharmaceutal preparation to the profession as the best and most pleasant antiseptic we employ, and we consider it far superior to carbolic acid, both in effects and odor, also possessing the great advantage of being non-poisonous and unirritating.

SOLIDIFIED WINE AND BRANDY.—An Italian has invented a process for solidifying wine. From a small quantity of this extract may be obtained a bottle of generous wine of good taste and beautiful color. The object is to vitual ships and supply armies. A French chemist has found a chemical combination by which he can solidify and even crystallise brandy. The brandy in its new form looks like alum. It entirely loses its smell. The facility with which it can be transported is the main recommendation of the new invention.—*London Med. News.*

AT a popular physiology lecture lately, Prof. Stirling, of 'Ours,' in the course of an amusing diatribe against the martyrdom of stays, as worn by women, exhibited a figure of the Venus of Milo side by side with the representation of a woman cut from a Paris fashion plate for 1880, and provoked great laughter by asking, "*Do* men desire that women should tightlace themselves so as to form a thing that one could span with two fingers? The human arm has not grown shorter within the last century." Is it a coincidence, or a wise provision, that a man's arm and a woman's waist both measure, on an average, 30 inches?—*London Medical News.*

THE PERIOD OF GESTATION AND THE PLACENTA OF THE ELEPHANT.—The birth of a young elephant, at Bridgeport, is the second well authenticated instance of such an occurence in captivity on record, a previous birth having taken place in Philadelphia in March 1880. Professor Owen, of London, in Vol. III., page 742, of his Anatomy of Vertebrates, mentions still another instance having occurred August 3, 1865, the elephants having paired December 18, 1863, but does not state where the birth took place nor does he cite any authority in reference to it. Prof. H. C. Chapman, of Philadelphia, who, from his connection with the Zoological Garden there and his interest in comparative anatomy, had an opportunity to follow events in the case of the elephant Hebe from the first suspicions of pregnancy to parturition, made an interesting communication to the Academy of Natural Sciences, of Philadelphia, to be found in Vol. VIII., of its journal, upon the placenta and generative apparatus of the elephant, presenting at the same time the injected placenta.

In the case of Hebe the first coitus took place May 29th and the last June 20th, 1878; eight months later, there being good reasons to consider her pregnant, the question of the period of gestation arose, in regard to which we quote from Dr. Chapman's paper: "'Here again I was comparatively in the dark. In the Thesaurus of Shebe, published in 1734, there is figured the fœtus of an elephant without and membranes taken out of its mother at about the middle of the period of gestation. Zimmermann also gives a figure of a fœtus. In the description of this fœtus only vague allusions are made to the length of gestation. As is well known, among the ancients, Pliny thought the period of gestation was six months, Strabo about eighteen; according to Aristotle, however, nearly two years.

"What I had learned from travelers in the East and from the case referred to by Professor Owen, the time being in that instance five hundred and ninety-three days, together with the fact of Aristotle giving nealy two years. led me to indicate that about the first of March 1880, would be the time at which the birth of the elephant might be looked for. The young elephant was born March 9th, exactly twenty months and twenty days after the last copulation, or twenty-one months and fifteen days reckoning from the first one. The fixing of the period of gestation in the elephant at six hundred and thirty to six hundred and fifty-six days is another interesting illustration of modern investigation confirming the statements made by the most profound thinker and careful observer, Aristotle.

"The labor was a very short one, the mother standing on all fours, with one hind foot slightly raised. The head presented. The unbilical cord broke, and was removed with the placenta and membranes shortly afterward by Mr. Arstingstall. Immediately after birth the mother rolled the young one in the starw. The young elephant, a female, stood thirty inches in height, measured from base of trunk to root of tail thirty-five inches, and weighed two-hundred pounds. It was noticed immediately that it sucked with the mouth, and not with the trunk, as Buffon reasoned it must do. * *

"The placenta of the elephant is not only interesting on account of its rarity, but also from its combining the characters of the placentæ of three different set of animals. The impossibility of using the placenta, in the case of the elephant at least, as a means of classification is therefore sufficiently obvious.'"

The latest elephantine baby is stated to have weighed one hundred and forty-six pounds at birth, and the period of gestation, as given, was shorter by several weeks than in the case reported by Dr. Chapman.—*Boston Med. and Surg. Jour.*

CRAB DISEASE.—Much has been said lately about crab disease, but crabs are like other animals subject to a great number of diseases. Dr. Harg has made many researches on this subject which are interesting, not only to those who are considered "gourments" put also to those who breed crabs. The disease is a parasite, due to the presence in the muscular tissue of *Diatoma cirrigerum.* From 100 to 200 have been found in one animal. Crabs suffering in this manner cease eating, become covered with spots, walk on the ends of their claws, and are stiff and clumsy. The diatoma belongs to that class of animals which undergo several changes, and does not reproduce itself until at their conclusion, not being then a perfect animal, at each stage in its life it inhabits a different animal. Crabs become subjects to them by eating dead fish.—*Medical Press and Circular.*

STABILITY OF CALOMEL.—P. Hoglan has made a series of experiments to discover the cause of the difference of opinion which exist concerning the conversion of calomel to corrosive sublimate by the alkaline chlorides and citric acid. The author's experiments show that calomel is slowly converted to corrosive sublimate by water at the temperature of the body; that, sal-ammoniac, citric acid, and hydrochloric acid greatly promote this conversion, and hence are more or less dangerous when present in the system with calomel; that at the temperature of the body calomel is an unstable compound. Hoglan found that when calomel and sugar were triturated together, no corrosive sublimate could be detected even after a fortnight; that when calomel was treated in the same way with magnesia, carbonate of magnesia or bicarbonate of sodium, the mixture yielded evidence of corrosive sublimate at the end of twenty-four hours. The author concludes that the discrepancies in regard to the stability of calomel are in part accounted for by taking into consideration the temperature at which the experiments have been conducted.—W. B. Hills, M. D., in *Boston Med. and Surg. Jour.*

CARBONIC ACID AS A POISONOUS PRODUCT OF DIGESTION.—According to Dr. I. Munk of Berlin, a horse of average weight excretes over three drachms of carbonic acid, or its near allies, in twenty-four hours. This acid is developed as one of the final products of digestive change in the intestinal canal. He suggests that it may, at times, be the cause of death of horses in cases of colic.—*Med. Record.*

KENTUCKY STATE MEDICAL SOCIETY.—The twenty-seventh annual session of the Kentucky State Medical Society will be held in the rooms of the Polytechnic Society of Kentucky, in Louisville, beginning on Wednesday, April 5, 1882. This session promises to be one of unusual interest to the profession of Kentucky, and it is the purpose to make it a *working session.* Voluntary papers are particularly solicited. The programme will be issued about the 20th of March. The usual arrangements for the comfort and convenience of members while in attendance will be made and announced.

L. S. MURTRY, Sec'y.

MEAT POWDER.—The Belgian Government is considering the advisability of adopting as one of the rations for the army, a substance which is undergoing a trial by a committee in Brussels. This substance is a kind of pulverized meat, which is very nutritious and very light, one pound being equal in nutritive power to six of fresh meat. It is not unlike pemmican, which has been used for many years in the northern part of America by the hunters. The advantages claimed for this material is its lightness, ease of cooking, and compactness, and the fact with very little trouble a most excellent soup may be made of it.—*La Presse Medicale.*

Bibliography.

A STUDY OF TUMORS OF THE BLADDER.[1]

The first thing that strikes the reader on reading the monograph is, the immense number of authorities referred to. Dr. Stein certainly deserves credit for collecting such valuable statistics on a subject of this sort. Tumors of the bladder are comparatively rare, and when present are rarely diagnosticated ante-mortem.

The work treats of the clinical history, pathology and treatment of growths in the viscus. The illustrations of the different reported cases are good. The conclusions formulated in the end of the work are valuable. The monograph will be welcomed by all persons desiring a clear and concise statement of the present medical knowledge on this subject.

ROCKWELL'S "LECTURES ON ELECTRICITY."[2]

These lectures were first published in series by the *Virginia Medical Monthly*, and appeared soon after in book form. They were then issued in this form, we are told, in order to supply deficiencies occasioned in the larger works of the same author, by the advancement of electro-therapeusis since the publication of the edition then existing. Since that time, however, a new edition of this larger work has been published, and it would seem unnecessary to re-issue this work. But on a subject of the importance this claims, and one which is so hurriedly passed over by our works on general medicine, there can hardly be extended to the practitioner too many oportunities for learning its proper use. We need hardly speak of the character of the book; its author is so well known. The subjects are treated with remarkable firmness. The chief improvement in this, over the first edition, is in the description of franklinic electricity, its production and uses; the galvanic accumulator in its application to surgery and the induction balance for locating the position of bullets in the body, the instrument which did not locate the bullet in President Garfield, and upon which the author advances no opinion. J.M.F.

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[1] With Original Contributions and Drawings, by Alex. W. Stein. M.D., Surgeon to Charity Hospital, Genito-Urinary and Venereal Division, etc. Published by Wm. Wood & Co., 27 Great Jones Street, New York, 1881.

[2] Lectures on Electricity (Dynamic and Franklinic) in its Relation to Medicine and Surgery, by A. D. Rockwell, A.M., M.D., Electro-Therapeutist to the New York State Woman's Hospital, Member of the American Neurological Association, etc., etc. New York: Wm. Wood & Co., 1881.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF GEORGIA, 1881.

This is a very handsome volume indeed, handsomely bound and printed on good paper, and containing more than 300 pages.

While we are, in Ohio, opposed to such elaborate publications, we cannot fail to see how a record of this kind will tend to maintain the interest of the members in their society. Aside from this very little good can be done by it. Nobody but members of the society buys the Transactions, and not every member at that. Thus, much that is valuable is lost to the profession in general. Were all our medical societies to publish their papers in some active journal, the poor ones would attract little attention. It is not every report, however, that has so little bad material as this one. With almost no exception the papers are interesting. The address of the President is chiefly devoted to the importance of local reformations. Prof. Westmoreland of Atlanta contributes an excellent paper on nævus, with eight cases of successful cure. The seventh case is of especial interest, in as much as it was a tumor of extraordinary size situated upon the upper lip and cheeks of a negro. It was totally removed by these operations so as to leave but little deformity, as shown by the woodcuts attached. The author lays special stress upon the importance of immediate surgical interference in cases of the subcutaneous nævus, where there is any tendency to spread, preferring the use of the needle at a white heat. Dr. Thos. R. Wright puts in a strong plea for the efficacy of quinine in preventing suppuration, sustaining it by the report of three cases of compound comminuted fracture of the leg, where the drug was given in frequent large doses, followed by recovery with *no* suppuration. The essayist speaks also of using in these cases the old "fracture-box" and "starch-bandage." Were he to try plaster-of-Paris according to modern methods, we feel confident that he would find less use for quinine. Prof. Ford, of Augusta, read a paper on the antiseptic properties of quinine and tar-water. As the cases he reports were almost exclusively relative to the union of parts divided by the knife, where it has become the fashion to get primaay union with ordinary cleanliness and the dry-dressing, we cannot see much force in the argument for at least the tar-water in these cases. That both quinine and tar have disinfectant properties has been an article of faith for many years. Dr. J. G. Hopkins favors local application of fluid extract of ergot in catarrh of the mucous membranes of the pharynx, and urethra in particular.

There are a number of other surgical papers, which we cannot here notice. There seems, however, to have been a marked scarcity of physicians—all specialists in Georgia, we suppose.

In conclusion, a large number of pages are devoted to the biography of deceased members of the Association.

The next meeting of this Society will be held in Atlanta, April 19, 1882. J.M.F.

THE *Alienist and Neurologist*, edited and published by C. H. Hughes, M.D., of St. Louis, Mo. This valuable quarterly publication has entered on its third year and, as an exponent of advances made in our knowledge of nervous and mental diseases, Dr. Hughes has made his journal a success. Not only is the journal a necessity to specialists but it is exceedingly useful to general practitioners of medicine.

OUR CONTINENT.—This is the name given to a new literary venture in the garb of a handsome weekly publication edited by Judge Tourgee, author of "A Fool's Errand," etc., Dr. D. G. Brinton, long known to the medical profession as editor and publisher of the Philadelphia *Medical and Surgical Reporter*, and Robert S. Davis. The first number just received is literally filled with good things, well written stories, terse articles on topics of the day, short poems, some elegant illustrations, all brought together, well arranged, and then issued in the very highest style of the engraver's and printer's art. With such men as Judge Tourgee and Dr. Brinton at the helm this craft, well keeled from stem to stern with an ample thickness of lucre and laden with the products of the most gifted writers of our land, is destined to sail at once into the good will and affections of a *Continent* of subscribers. It is just the thing for a doctor's family.

LOCAL TREATMENT OF COUGH.—Prof. Elsberg recommends the local application of iodoform dissolved in sulphuric ether and flavored with wintergreen or musk, by means of a sponge and holder aided by laryngeal mirror.—*Med. Digest.*

Clinical Lectures.

DEMENTIA PARALYTICA.

A Clinical Lecture delivered at the Hospital of the Good Samaritan.

By JAMES T. WHITTAKER, M.D.,
Professor Theory and Practice of Medicine
Medical College of Ohio.

[Reported by JAMES M. FRENCH, M. D., Assistant to the Chair of Theory and Practice.]

GENTLEMEN: You may observe something of the conduct of this patient while the house physician, Dr. Kelly, reads us its history from his case book.

HISTORY.—M. O'Connor, æt. 59, married and the father of twelve children. His wife's mental condition is such that no definite information can be obtained from her regarding his history. From a neighbor it was learned that until about two years ago the patient was a sober man, although he was always considered somewhat peculiar and eccentric. These mental peculiarities consisted of various little actions which of themselves amounted to only eccentricity, but which, taken as a whole, by their variety and frequent repetition showed an unsound condition of mind. About two years ago the patient began to drink and since that time has been a steady and heavy drinker. On his admission to the hospital he was under the influence of liquor and he was at that time supposed to be laboring under an attack of delirium tremens. When, however, the immediate effects of liquor passed off, it was found that he was suffering from some other trouble also. He has great difficulty in walking amounting almost to disability. His legs, although of good size seem to be entirely incapable of supporting the body. The veins of the lower legs are varicosed. The patient's physical condition is as good as ordinary. The lower lip falls away from the teeth and upon his extruding the tongue this organ is found to be tremulous. His articulation is somewhat thick and imperfect. The most interesting feature in the case, however, is the patient's mental condition. He indulges in all manner of grand ideas. One of his constant ideas is that he must go to New York to transact some important business, in which an immense amount of money is concerned Sometimes in the middle of the night he will awake and begin to imitate a steamboat whistle. Occasionally at some slight cause he goes into a violent passion, requiring restraint lest he injure some one. In these paroxysms of anger, his strength is wonderful, requiring three or four attendants to manage him. He seems to have no ideas of the proprieties of life or morality. He has no definite recollection of past events; indeed, his memory is almost *nil*. His appetite is good; bowels slightly costive; he sleeps only from the effects of hypnotics.

This disease gives us an association of symptoms that is simulated by no other disease and anyone who has ever seen a case or read the history of a case would not hesitate in making a diagnosis.

Now let us notice the symptoms as they occurred in this case and as we have heard them read. First the history of alcoholism. Our patient has been something of a drinker although he has had the reputation of being a sober man up to two years ago. But after that time there have been noticed some excentricities of conduct. Now almost everyone has some eccentricity of conduct, and nothing serious is thought of it; it is only when they are very much or very marked that they become the subject of comment. There is generally observed in this disease, as in this patient, a profound change of disposition. The most amiable man becomes irritable and grows morose, or the silent man becomes grandiloquent, the miser lavish, the fastidious slovenly, or some such changes occurs to last sometimes for months or years before there supervene some gross physical change.

The history next tells us of some peculiar change in the mans gait, so that he did not walk as he was accustomed to walk. It would be interesting to know just what kind of a gait this was; whether it was characteristic of a spinal disease or of a cerebral disease. We know what the gait of locomotor ataxia is. We know that these patients bring their feet down heavily, so that the toes strike the ground with a thump after the heel, and not softly as the foot falls in health. The patient must see also to help him walk, he leans, we say, upon his eyesight as upon a crutch. The gait of cerebral disease, independent of any hemiplegia where the disease affects only one side of the body, is a shuffling gait. It would be a difficulty not in controlling a certain set of muscles, but in controlling any of the muscles. Now a man with locomotor ataxia can get along pretty well if he walks fast, if he trots. This gait is known as the festinating gait. It is, however, different in cerebral diseases for here the patient must walk with deliberation, not fast but slow. What kind of a gait this man had at the start we do not know now, but it was certainly one of these two. We can say of him that later in the history of his disease he will not be able to walk at all for after the stage of excitement and irritation will ensue the stage of paralysis. I can speak frankly of his condition in his presence for he is not conscious enough to know what I say.

I will now call your attention to a symptom which, while it is not pathognomonic, is, when taken in connection with other symptoms, very characteristic. It is what is known by the French as the *folie ambitieuse* or *delire des grandeurs*, that is, he believes that he possesses great talent, great fortune, or great power. Shakespeare says: "Conceit in weakest bodies strongest works," and weakness of mind is the one leading feature which distinguishes this dissease, however varied its clinical picture may be.

In this case the idea of exaltation is very well marked, he thinks he most go to New York to transact some very important business. Some of you no doubt remember the case that was brought before the class three years ago, who believed that he possessed property in Clifton worth many millions of dollars, and that his house was furnished at a cost of many millions more. I had a man once who believed he had invented a machine by which he could regulate the movements of the planets. Another form of this delusion is that many of them thinks that they have been elevated to some high office; that they are Napoleons, or in this country that they are Presidents of the United Stntes. This is an exceedingly characteristic manifestation, and when you see it marked you may suspect that you have to deal with a case of paralytic dementia. But this sign is by no means pathognomonic. The individual is insane. Not every case shows it, many cases are marked by melancholia or mania from the start, and many cases of insanity independent of this disease show this sign in high degree.

After these symptoms have continued some length cf time, most of the patients fall into the most abject melancholy. They gradually retire from the world and shut themselves up in their house; some even go to their beds and stay there for months.

Confinement very much aggravates the case and precipitates the end.

Progress is a characteristic of the disease. You cannot drive the melancholic patient from his room, from his corner, from his bed. These alterations of disposition are very characteristic features, though they are by no means pathognomonic of paralytic dementia.

Now I will call your attention to some symptoms which we can see upon the surface, and which are almost pathognomonic.

We have heard in his history, and we see for ourselves that his lower lip falls away from his teeth. This means that there is a partial paralysis of the orbicularis oris. There is in health a certain tonicity about the orbicularis oris which keeps the lips always in contact with each other and with the teeth; but there is here a certain paresis, which allows it to fall away. This paresis, however, becomes more apparent when the individual undertakes to pronounce certain words. "Artillery," is a good text. They generally put in an "r" and say 'artrillery'.

There is here another sign, a tremor of the tongue. Notice it—that is also characteristic of a paretic state. The tongue is, as you know, supplied by the hypoglossal nerve, and not by the facial, which supplies the lips. Now, sometimes you will notice before the lip begins to fall away from the teeth, a similar tremulousness of it.

It has been nicely stated by some fine and close observers that the patient looks as if he were about to burst into tears, or was failing to control an explosion of feeling. These changes show that there is some alteration in the medulla oblongata at the deep origin of the facial and hypoglossal nerves, and if you see these signs associated with either an exaltation or depression of ideas, you will know at once that the disease is progressive paralysis of the insane. By this term this disease is known in every language.

We do not know very much of the pathology of it as yet. Our definite knowledge of it dates only back to 1822. It was then described by Bayle, and it is now sometimes called Bayle's disease. Although Bayle described it, he was not the original discoverer of it. Bale was the Columbus; but Calmeil was the true Americus in the history of this disease. But there still existed such discrepancies in its pathology that it was not until 1837 that the Academy of Medicine of Paris was willing to admit it as a separate disease. Now, I say, we look upon it as a common affection, and we cannot pick up a work on psychology or on nervous diseases that will not have at least a chapter devoted to the progressive paralysis of the insane.

This man was not taken suddenly with this disease, but as we have heard, it came on gradually. If the disease commences in the spinal cord, it excites atactic phenomena first. The patient notices that he has to use his eyesight in walking—that he staggers. We have to say of this disease what we have to say of no other disease in the body; that it invades every nerve element in the body. Attacking first the cord and brain, it spreads out until it reaches even the distal nerves, their origin and insertion in sensitive and motor structures.

It is an interstitial inflammation of the brain and cord. It is in its essence a hyperplasia of connective tissue of not only the brain and of the cord, but of every nerve that goes out from and enters into them; the nerves of special sense. That is what we mean in pathology by progressive paralysis of the insane. If we look at a microscopic section of a brain affected with this disease, we see a hyperplasia of the connective tissues. As this process goes on, the circulation is shut off, and the brain substance becomes anæmic. Then contraction of this new connective tissue occurs, and strangulation of nerve cells and vessels ensues. Afterwards when the disease is more advanced you find an absolutely cribriform appearance, and the section looks with its vacuoles just like the section of a piece of old Swiss cheese.

Notice now, again, as the patient puts out his tongue, how it is affected with tremor. This also extends to the other muscles of the body. But sooner or later follows paresis, and a little later paralysis puts an end to the scene.

Now, would it not be an interesting thing to know what to do with a curious case like this? I have already called your attention to the fact that the disease is produced in many cases by alcoholism. Statistics show that of every one hundred and sixty (160) cases, one hundred and sixteen (116) are preceded by a history of alcoholism. We are not surprised to know that when we know what changes alcohol produces in other organs of the body, the hyperplasia of connective tissue it produces, for instance, in the liver. It is the rule that where we have a long continued use of alcohol, we have this hyperplasia; yet there are cases in which it does not occur. We frequently see persons addicted to its use for years, in whom it has produced no apparent harmful effect. So there must be a predisposing as well as an exciting cause, and this predisposition often comes by heredity.

Outside of alcohol, the most frequent cause we see is emotional disturbances, as profound and long continued grief. A minority of cases are the sequelæ of sunstroke. If you take a hundred cases of this disease, seventy-five will be found due to alcoholism, or at least will have a history of it in their past life; of the remainder only about seven will be attributaable to sun-stroke and sexual excess or abuse, and the rest to mental emotion. So it is only in the minority of the cases that the disease is produced by any thing causing great or sustained mental excitement or distress. It is said that about ten per cent of all the cases in the asylums of Berlin have this disease. In France the ratio is about eight per cent; in England, about six per cent. We need not be surprised to know that the percentage is greater in our own country, where dissipation is most marked, and where competition for success in life is so much more eager and fierce.

A physician who went out from England and took charge of an asylum at Guiana, South America, made the curious statement, that during his whole stay in that country, he saw only one case of progressive paralysis; and he attributes the rarity of the disease to the mental indolence, the sloth of the people. Surely we may say of this fact that it is indeed "an ill wind that blows nobody good."

While with us years ago it was a great rarity to present a case of this kind to the class, we can now, in a small hospital like this, present at least one case every year.

As I have already intimated, what you might know from the lesions, the treatment of this disease is very unsatisfactory. With all of the modern discoveries in the practice of medicine we have been able to add something to the average duration of life. But this addition to life comes from our better knowledge of the acute infections. We prevent the development and arrest the spread of the acute infections, but we stand helpless in the presence of the chronic neuroses. We make up for our gain in one direction by the increase of the neuroses.

This individual will become absolutely paralytic so that he cannot attend to his wants, and so that he will even have to be fed.

It is of immense importance to know this disease early in its history, and I must now call your attention to the prodromata by which it may be recognized as approaching even ten years before the more marked symptoms develop. Sometimes we can, that long, ahead, say, "this is a case of approaching paralytic dementia;" and sometimes, as I have said, this is of the utmost practical importance. It is not that these patients often show suicidal tendencies, or often have homicidal desires, though I have had such cases myself. These are the cases rather that affect others in another way. They often throw away a large fortune in a very short space of time. You may then know these cases by the vague disturbances of sensation, by the peculiar, anomalous neuralgic pains; but above all by the peculiar alterations of the mind. You will diagnosticate the disease at once by the peculiar tremor of the lip, cheeks and tongue. These are the most characteristic features, for whether the disease begins first in the brain or in the cord, it soon travels to the medulla oblongata and involves the roots of the facial and hypoglossal nerves.

I have already stated that obstinacy is one of the most positive features in this disease. Now, whenever the connective tissue undergoes proliferation, it must contract and cause strangulation of the blood-vessels, thus cutting off the supply to the parts affected. On account of this change, as I have said, the nerve substance loses the pinkish color of the hyperæmic stages and becomes pale, and in addition to this, when the disease has existed some time, the tissues become contracted.

There is no disease with which you can confound paralytic dementia when all its symptoms are on. Glosso-labio-laryngeal paralysis, which simulates it in its affection of the lip and tongue, is an affection of only one zone or region, and is not attended with psychical disturbances at all.

Generally you would not confound it with locomotor ataxia, because we have so early a change in the disposition of the patient in progressive paralysis. These patients generally become totally indifferent to what is going on around them, so that it has been said that the red thread which runs through and characterizes this disease is a cloudiness of intellect, a fatuity of disposition, in brief, weakness of the mind.

The prognosis is gloomy. Death is only a matter of time. The average length of life is four or five years, though some patients live as long as ten or fifteen. With this man it is only a question of a short time. If you would know how long, take his temperature. When the temperature begins to fluctuate, the time is short. As soon as the temperature runs up a degree higher in the evenings than in the mornings, it is a question merely of months. If the difference amounts to two degrees, it is a question of but weeks; it may be of days. Always turn over a patient of this kind in bed, and see that they do not have bed sores, as they are so apt to do, for they get into one position and lie there for weeks, so indifferent are they to themselves and everything about them.

What could you do for a case if you had it early to treat? It is said that some cases have been cured. There it no *indicatio morbi.* There is nothing we can give to dissolve away the connective tissue. It is said that the disease is arrested by putting the patients on a course of mineral waters. I have not seen a case that did not die. Of course, I have, fortunately, not seen many cases, but what I have seen have all proved fatal within a few years or months. Yet, while the treatment is so unsatisfactory it is a matter of gratification to be able to make a proper prognosis.

As early as the time of Hippocrates, it was said that that physician was best who could make, not a good diagnosis, but a correct prognosis.

To get the history of this case, Dr. Kelley, the resident physician, had to leave the house and go down town to the patient's house, and there, strange enough, he found the man's wife in almost the same condition as he is in; and it was only through a friend that he was able to elicit the points he has read. We owe him thanks for the trouble he has taken to bring the case properly before the class.

OUR venerable friend, Mrs. Partington, says that "Ike has an irrigating disease: Charlotte russe broke out all over him, and if he hadn't worn the Injun beads as an omelette it would doubtless have calumniated fatally."

IT is stated by Dr. Billings (U.S.A.) that 100,000 people die annually in the United States, from preventable diseases and avoidable accidents.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of February 6th, 1882.

A. E. HEIGHWAY, M.D. *Chairman pro tem.* W. H. WENNING M.D., *Secretary.*

Gunshot Wounds of Joints.

DR. P. S. CONNER read an interesting and exhaustive essay on this subject, in which he dwelt especially upon the subject of exsection of joints after gunshot injuries.

DISCUSSION.

DR. YOUNG observed that the paper was very exhaustive. In gunshot wounds of the shoulder-joint the amount of injury inflicted depends on the age of the individual; if the ball passes one and a half inches below the anatomical neck in younger persons (say fifteen years of age), it will cease at that point, but in older individuals it will always cause further injury by splintering into the joint, the extent of spintering depending on the direction of the ball. When the injury occurs in the cancellous portion it breaks this and does not extend any further. Resections have been made where there is no necessity for them; in the speaker's opinion it is a mistake to perform this operation where the ball strikes three or four inches below the head. The great opportunity in this country for exsections was during the late civil war and yet many surgeons were entirely ignorant of the operation. After the battle of Stone River, for example, no exsections but only amputations had been performed for injuries to the *shoulder-joint* until the speaker performed the first exsection which was followed by others.

A marked characteristic following exsections is the slight suffering afterwards and the great toleration to rough handling that the patient will bear. The percentage of recovery from this operation was great.

In exsections of the *elbow joint*, however, the reverse was the case. No operation proved so hopeless. Our surgeons had only the experience of the Crimean War to go by at the beginning of our war and since then it has not been improved upon. All of the cases of exsection underwent secondary operations, although the limbs were placed on an Esmarch splint. The great point in such cases is to secure rest to the limb by confining it closely to the body of the patient. In this position cases get along much better than when the part is laid on a pillow, where there is a great tendency for the suppuration to pass upward. At the close of the war, after the battle of Chicamauga, the arm was always amputated when at a distance from a railroad or station, preferably to incurring the risk of a secondary operation, which was almost always inevitable. Even in the hospitals of the rear the same unfavorable result above mentioned was found.

The speaker never saw a gunshot of the *wrist joint* in our army and therefore would not dwell upon this point.

In injuries to the *hip-joint* the mortality was as great as the essayist recorded. There was, however, not that difficulty of diagnosis as the essayist implicitly states. The speaker could not agree with those that reject the use of the probe in gunshot wounds. When used intelligently and without force it can do no more harm here than elsewhere. It will enable a person to arrive at a conclusion which cannot be reached by other means.

On account of the similarity existing between the *knee-joint* and elbow the results in the former were as hopeless as those obtained in operations on the latter, if anything the patient that sustained a shattered knee died in a shorter time. The symptoms were similar, but after receiving an injury in the knee-joint the men seemed to suffer more. The joint was shivered into minute pieces which caused great irritation and inflammation. The speaker attributed the severe constitutional effect to the superficial covering in these two joints of the upper and lower extremities and the close proximity of important structures. All the cases he had in the war he found necessary to amputate. He would remark just here that statistics are not always reliable. He knew of at least one case treated at Chattanooga on the expectant plan which was afterwards reported by the surgeon in charge as recovered, and was perhaps included in the statistics mentioned by the essayist. He (the speaker), however, knew that the man had died. In fact all the cases of injury to the knee-joint that the speaker had seen in Chattanooga treated on the expectant plan died. Even in Washington the result was uniformly fatal.

Drainage was in most instances bad, owing either to the faulty position of the limb or the imperfection of the drainage tubes—or both. Even if he tried to impress this fact at the time upon his professional brethren, he was generally overruled in consultation. He had no doubt that with proper drainage many cases might have been saved. If the war had continued longer this subject would probably have received more attention. To effect thorough drainage the speaker, however, would not use tents or drainage tubes, which might become clogged, but, in the case of the thigh, would cut out a triangular opening at least one inch in extent, to allow free exit to the pus, making this operation on the most dependent point of the limb. Also in the knee-joint he would make a free opening; however, as said before, in injuries to this joint he was not sanguine of success. Plaster of Paris splints may be applicable in some instances but in serious cases he was exceedingly doubtful of their utility. Where a ball passed through a joint and shattered it in many pieces they cannot be of service. If the injury is extensive mortality will be great and the only thing left is amputation; this applies to any joint. Antisepsis was, of course, not resorted to in our army and is even now, according to latest accounts, on the wane; in the speaker's mind it had no advantages over the Esmarch splint. One prime cause of the great mortality must be attributed to the unsatisfactory means of conveyance of the wounded in the army. An army ambulance is simply horrible and will always be attended with a great mortality. Every man should be properly supported by splints and transported in a separate cot to the train or station, so as to incur the least jarring.

Dr. Wm. Judkins said he had a case of gunshot injury to the elbow-joint a few years ago in a lady that had been shot by a friend. He put the limb in plaster of Paris, but the patient, who was a broken down subject, died of erysipelas.

Dr. Heighway knew of several instances where soldiers sustained injury to the knee-joint in the War of the Rebellion, were afterwards treated here and recovered.

Dr. Conner said he listened with great pleasure to Dr. Young's remarks. He must agree with him in many points, as, for instance, in the remarks made on drainage, ambulance, etc. He also had seen no man recover from extensive injury to the hip and knee-joint. With elbow cases he had seen some, though slight, success.

Selections.

MEDICINE.

Twenty-one Years of Scientific Progress in the Use and Disuse of Alcohol.—B. W. Richardson, M. D., F. R. C. P., F. R. S., President of the Sanitary Institute of Great Britain, contributes this interesting article to the *Medical Press and Circular*:

(1.) I remember that twenty-one years ago it was a very common notion—one of the most common of all notions—that wine, beer and spirits were things quite distinct from water. The common impression was that when these things were taken they were distinctive agents of themselves, that there was no water connected with them according to ordinary acceptation, and even through our better classes this view was constantly expressed. A gentleman sitting at table would tell you that it was the best champagne he provided, no watery stuff, and that he had given say £7 a dozen for it. You were under the delusion if you took the man's word that teat this was no watery beverage, but something different. You found the poor man at the inn, smacking his lips and saying, "This is no water, it is good malt and hops." So a person taking a glass of spirit which burnt his lips and throat thought it all the better the hotter it was, "because," he would say, "it is farthest removed from water.' There is no doubt a great advance in the public knowledge on this one topic. We, as men of science, have so impregnated the public mind with the facts that there are very few now who do not know that the fluids sold as beer, and wine, and spirit are always largely water. The bottle of champagne, which costs so much per dozen, when it comes up for investigation, turns out to be a fluid of which, if you take one hundred, from eighty to ninety, are water. If you turn to the beer which the man is drinking at the inn, you find the same relative story. So with regard to spirit. In sherry there will be three parts of water to one of spirit; in brandy, that strongest spirit, fifty of water to fifty of spirit. Now, I think, through the length and breadth of the land, these facts are making an impression, and those who are not engaged in the question of scientific research can use them as forcibly as we can. They can explain that people who think they are paying large sums of money for something exceedingly choice, are after all unwittingly, and in a very unfortunate way, water-buyers and water-drinkers.

(2.) When the idea of spirit was brought forward, and we talked of the strength of beers, wines, and spirits, it was thought that one particular alcohol or spirit was the only thing of its kind. Men of science knew better, but the general impression was, and is to some extent still, that the substance which we call spirit is a thing alone of itself, that it stands as though there was nothing else like it. I hope we have pretty fairly imbued the nation with the fact that this spirit of wine is only one of a great family; that there are a number of alcohols, some derived from wood, some from wheat, some from potato spirit, and so on—all bodies except by the simple accidents of taste and weight, and a few other physical varieties, from that alcohol which we drink.

(3.) I think we have fairly brought out what in regard to the effect of the particular alcohol we take that it can in no way be considered a *food*. We have shown that foods are substances which either make up the great mass of the body, like water; or which build up the tissues, like albumen, egg, cheese, meats; or which burn *in* the body, like fat, and starch, and sugar, producing animal warmth and keeping up the vital fire; or which go to make up the bony structure. We have shown that alcohol does not belong to water food; that there is nothing in it which it can represent in regard to meat substances; or the same with the structures which make up the skeleton of the body. Then, when we ask whether this agent can be classed with the foods which keep up the animal warmth, we find that its imbibition reduces the animal temperature and prevents the formation of those products which come from the burning of food within the body. Therefore, so far as alcohol is concerned, we can affirm that positively it is no food at all, that it produces phenomenal effects upon the body, is no more a food than chloroform and ether are foods.

(4.) Again we have traced out that alcohol acts just as do other phenomenal agents. Men of science have come by a common consent to this position, that there must be a certain point when the quantity taken must not be exceeded. There is not a single physician living who is a thoughtful man, who would not tell you candidly and honestly in this day that there must be a very strict border line drawn as to where the luxury must stop. Twenty years ago men did not think of a limited number at all. "O?" says the man who wishes to please all parties—"you may take a little but it must not exceed the physiological quantity"—not more than you can by your good health dispose of without injury to yourself. "You may take 1½ oz. of alcohol if you like in twenty-four hours." That means a very small quantity indeed. It would be represented by two to three glasses of ale. "You may take that in twenty-four hours, but you must not exceed that quantity. If you do, then you run the certain risk of slipping into disease." Thus we have brought the matter of quantity down to a very fine point indeed—and some even reduce the quantity still lower.

(6t) Twenty one years ago it was a common belief that men did more work when they took a little drink—not a little, I think I am wrong there, but when they began with a little and went on, great feats were said to be performed by men when they were taking the drink, as if the taking of the drink was a necessity for the feat. Science has shown that there is no strength got by alcohol, that it is perfectly impossible that that which does not build up the tissues of the body, does not supply water, warmth, and vitality to the body, can give strength to the body; while numbers began to try to abstain independently of science, and so two favouring currents set in. Now what are the recognized facts? That all men who are going into training, for rowing, long walks, and the like—whatever they are going to do with regard to training for these pursuits discover the advantage they get if they altogether abstain from the use of this degrading and debasing physical agent—alcohol.

(6) Another advance has been made in regard to *mental work*. I remember the time, when if it was conceived necessary to write at night, a man must needs prime himself with wine or spirits. Here again, our scientific research came into play, and we have been able to show positively that nothing is so injurious to mental work and capacity as for anyone to lace himself up with strong drink under the idea that he is assisting himself. All our medical authorities at this day proclaim that as the general fact; and they proclaim it from reasons which are seen fearfully standing out day by day in the most glaring colors, and on the most unmistakable lines. The very best of men (such is the evidence) have fallen from this idea, that being engaged in mental or artistic work, they would gain assistance from an agent which, of all others, is to them most enticing and most perilous. It is men of this class who most readily succumb. This impression of evil from alcohol has had its influence all through society, but whether there is a great reaction in favour of the simple rules of nature or not, this is quite certain, the evidence that should lead to such reaction is now fairly and fully before the world, and has been put before it by the labours of those who have worked on the scientific basis during the past twenty-one years.

(7.) Twenty one years ago, except among the total abstainers themselves, it was believed that to meet the vicissitudes of cold and of heat, it was necessary that a certain amount of alcohol should be taken; and so our ships went out to the Artic region charged with spirits to "assist" the men, and our soldiers were sent out to India charged with spirit rations to give strength to them. Look at the extreme absurdity of this practice. If the men that went due North had this alcohol to warm them, the men that went to tropical climes could not want it for warmth. Did they want it to cool them? What is the evidence? We have proved that under cold there was nothing so bad as this spirit, and that it is, as it were, death added to sleep. We have proved that when the temperature of the body is raised by extreme warmth there is nothing so bad as the tension produced in the blood by this high vapour of alcohol. We have shown through science what is the effect of alcohol in heat and cold, and have shown that in both cases it must, from the nature of its action, be ruinous to health and life. That has had a good effect. We know now those men who have been total abstainers have lived best, worked hardest, suffered least, and came home soundest in heat and cold. We know that in tropical regions those men who have taken least have fought the hardest battles and made the best marches; and those who had taken none at all have been better off still. In tropical weather we have found that the mortal disease which kills so many and which is called sunstroke—that the people thus stricken are not all persons in perfect health, but those who have prepared themselves for the direct effect of the sun upon them by the introduction into their systems of alcoholic drink.

(8) Twenty-one years ago it was supposed that persons could *live for a certain length of time upon alcohol*, and one of the hardest nuts we have had to crack has been to meet this statement. It was very common to give to weak and feeble persons wine and strong drink, and they live upon that, as it seems, so well that nobody could be convinced this was not good living in certain cases of weakness and exhaustion and want of other fluid. As we have thought over the matter the facts have come out, that what is most wanted by these starving people, that which keeps them alive is not the alcohol, but the water that is commingled with it. The person who is said to take a bit of rusk, and with that so much gin-and-water or champagne, has not been living by virtue of alcohol or spirit, but by virtue of the water that has been taken with the limited fare; and we have come to a positive conclusion and knowledge that a man may go on for days and weeks, and may live as it were upon himself, if you will simply supply him with a sufficient quantity of water.

(9) I recollect twenty-one years ago that alcohol was considered the grand *panacea in the treatment of diseases*. For my part, though I had not then become a total abstainer, I had always stood aloof from the method of treating all descriptions of disease, and particularly diseases of an exhaustive kind, with large quantities of alcohol. In my student life I observed in cases of fever that the free administration of alcohol always produced a great deal of excitement first, and then depression, and then sleep, and a delirium which did not seem to be very different from the delirium of drunkenness; and yet under the influence of masters who said this was necessary a student was obliged to accept that that was the right treatment. Later in life when I began to practice for myself and found a very distinguished physician praising this treatment in all directions, and a number of diciples following him, I was obliged to hold aloof and be

somewhat unpopular because I would moderate the quantity of spirit that was given. Then gradually the truth began to dawn upon me and others that the thing was all wrong; and through the great efforts made by a very few men in the first instance what is the result. That the whole of this heroic line of treatment of disease, not by ounces of wine, but of pints per day, has been altogether given up. The idea of the wine or spirit treatment of fever has passed nearly away. To Dr. Gairdner, of Glasgow, we are greatly indebted. With a boldness which few men under the circumstances would have evinced, he elimited these stimulants from his fever wards one by one. He found persons come in there sick with the disease and die at the rate of 36 per cent. In from two to three years, with true conservatism, by reducing the quantity of alcohol until he brought it to a minimum or to nothing at all, he got results of deaths at the rate of 8 or 9 per cent. We were all struck by this, and you will find wherever you go that this treatment of disease by large quantities of drink has passed into oblivion, never, I hope, to rise again; has passed away with results at which everyone wonders, with results in recoveries which never could have been hoped for if, by a slow and gradual process, from that which was—yes, I will say it boldly—vicious and dangerous, and even fatal, a different system had not been carried out.

(10.) Twenty-one years ago we attributed but little to alcohol as a *cause of disaese*. We said there was a disease called gin-drinker's liver, and this was attended afterwards with dropsy, and led to a certain fixed mortality. We knew well also of *delirium tremens*, and of *mania potu*, as the French call it, or "dipsomania," as we call it, and not much more. You will, however, find now that the word *alcoholic* has become a common adjective in language referring to disease. Men speak of alcoholic phthisis or consumption. I was first to observe that there was a particular form of consumption, very fatal in its character, which was peculiar to persons who indulged largely in alcohol, which was specifically *alcoholic consumption*. That has been accepted, and later on other forms of disease—liver disease, heart disease, paralysis, appoplexy, various forms of dyspepsia, premature old age, and death are often accepted as alcoholic. You will hear that a man has got alcoholic paralysis, has died from appoplexy the result of alcohol, is prematurely old from alcohol; that is the evidence you get now; but you did not get it twenty-one years ago. The facts had always been as they are, all history had told the facts; but they had not been analyzed and traced to their source. We had not known that it was from the influence of this one particular agent that all this vast mass of disease was springing. A professional brother, going further than I even would have gone, has said that in walking his hospital for twenty-five years he has been led to the conclusion that sixty to seventy of the cases of disease which came there were cases of disease brought about either directly or indirectly by this one agent alcohol.

(11.) We have known always that when a man or woman sits down at the table and begins to take wine too freely, there is a stage of excitement, another stage of more excitement, another stage of wasted excitement and coldness and pallor, or darkness of the face; and a final stage, when the body lies helpless, or, as we should call it dead drunk. That was known as regards the first effects of alcohol. What do we now know? We know that the slow, insiduous effect of alcohol upon persons taking it day by day and year by year, at last gives us great populations who, not being intoxicated in this special or acute form, are still its victims in the same way. We know there are populations who go about and take the "physiological quantity" which brings them up to the first stage; populations who, beginning rather early in the day, go from bar to bar, and place to place, perpetually in the second stage; populations who go on day by day and never go to bed thoroughly sober, or out of the third stage. And, when we go into our asylums and hospitals we find the victims of alcoholic paralysis, who, unable to help themselves, are practically speechless and practically dead drunk from the permanent use of alcohol, have advanced in this slow, insiduous manner, into the fourth stage, in which they are ripe and ready to drop into the grave.

(12.) Twenty-one years ago, the facts about disease and short life from drink not being well recognized, our insurance companies were blind to them; but now so keen are they on this question of the effect of drink upon the persons who come to be insured that on the lives of those who sell strong drink there is put actually an extra tariff, and the great question asked by the insurance company is the question of sobriety.

(13.) We have figures in regard to the mortality from this agent strong drink which are startling, and which twenty years ago we should never have conceived as possible. Lately we have got much more refined examination of facts than formerly, although there has been a difference of opinion as to the real mortality from the use of strong drink. Dr. Farr, who thought that the mortality was very much overrated, has since said that forty to fifty thousand persons die per year from what he calls "tippling". Dr. Farr, before he resigned his post, was so good as to allow me to examine some returne of his, and this came out as a startling fact that there were variations in mortality from 71 to 138, 100 being the standard; this is to say, if the mean mortality of seventy occupations in three years examined was 100, then in the most favorable occupations the deaths were as seventy, and those in the least favorable were down to considerably over 100.

(14.) As regards *insanity*. Exactly in the same way as the body ceases to exert its proper powers under this agent so the mind begins to fail. There is a great difference of opinion as to the amount of mental disease produced by alcohol. Twenty years ago the subject was not much under discussion, now it is, and the Commissioners are now reporting upon it. There is a very large amount of insanity produced by drink, directly or indirectly. Dr. Edgar Shepherd declared that 40 per cent. of the persons who come into the great Asylum at Colney Hatch are brought there by the direct or indirect effects of drink. The Royal Commissioners say that the direct effects are represented by 14 per cent. It is difficult to get at the direct, and separate them from the indirect effects. But apart from that—see what an important point has been brought forth. I hold in my hand the record of 232 cases published by Dr. Mason, of Fort Hamilton. Dr. Mason shows, from the persons who have been under his own care, that it is not poor and badly educated, but that all classes are effected through this agent, and are represented in his asylum. He says, "We have at present amongst our patients clergymen, lawyers, physicians, and representatives from all classes of society, who once held remunerative and responsible positions, but who now, voluntarily in many instances, seek the shelter and restorative aid which our asylum affords." He goes on to say how this inebriety is brought on and produced by the drink, and he would put as mental alienation from drink the estimates higher than those of Dr. Edgar Shepherd. You see what a lesson this is to us, that there should be not only the physical, but the mental death so distinctly brought out by the use of alcohol.

(15.) Another point, and it is a sad and impressive one. Twenty-one years ago we had no kind of knowledge of an exact nature with regard to *heredity and drink.* Dr. Connolly, the late Sir John Forbes, and Dr. Carpenter had hinted and pointed out the relationship of drink to certain forms of hereditary disease; but we had no conception how marked is the influence of alcohol to produce disease by heredity, that is to say, not only in the person directly affected, but in the offspring of the person. We now know as certainly as possible that the thoroughly inebriate man or woman having children impress those children distinctly with the diseases which spring from the use of this particular fluid, and here we have again Dr. Mason coming forward and telling us: "The inebriety of parents should be regarded as one predisposing cause of insanity in children. The principal cause is the inebriety in the parents—92 of 116 cases in our asylums have such a percentage."

(16.) Again, we have brought out before us in a manner never before the *relationship of alcohol to crime.* Our judges now are alive to the subject. Some have said that 90 per cent. of the criminal cases come from this cause, and this very day the papers contain a charge by Mr. Justice Kay, in which he says judicially, "I know by my experience that 50 per cent. of the crime of the kingdom springs from this cause."

(17.) We have declared that alcohol prepared and taken on a large scale is a source of starvation—that to take large quantities of it is to starve. We have known that all through our history. Our painters have shown that. Our Hogarths and Cruikshanks have sketched that. All who have depicted drunkenness have concocted it with want and penury. We have got now beyond that. We see the nations that are going to suffer severely, are nations that destroy the produce which is given to them for the supply of their natural wants by appropriating it to unnatural productions. For instance, in Ireland, one of my friends has brought me a book on the culture of land in Ireland, and has shown that 75 per cent, of the cereal produce of that country goes for the production of one grain—barley, which goes in its turn for the production of one destructive drink—whisky. Let us take that to our minds; and that is only one illustration of which many more could be given; but we have here this broad fact before us that directly we begin to take food for a false purpose we take from ourselves that which nature wished us to have, and starvation, misery, and penury are the natural results.

(18.) We have gained a piece of information we had not twenty-one years ago. Twenty-one years ago it was common to say; "What the total abstainers urge is right enough, but we are accustomed to the use of strong drinks, and are unable to leave them off; it is dangerous to leave them off. You must not break through a habit. You must be moderate." On that point we have grand experiments going on in our model prisons. We know that those unfortunates who are locked up, are locked up directly from this agent. When my mind became turned toward the action of alcohol upon the body I said: "Here is a crucial test about the leaving off." I inquired of the prisons, "Do you let these people down drop by drop, and gradually reduce strong drink?" "No," I found was the response. As the prison-door closes the tap closes so far as they are concerned. Then I asked "Do they suffer in any way?" The answer was "Never!" And wherever I have made that inquiry into discipline and life I have never once found an instance where it could be shown that the sudden leaving off of this drink by these people was a cause of any disease or any kind of defect whatsoever.

In America and Canada we have had the same experience. Dr. Bucke has recently published some experiments he has conducted. In 600 cases he has removed suddenly strong drink, and he says his asylum was never in better condition, and that he has never had the least occasion to suppose that the slightest injury was afflicted. For the moral tide of our question this is a fact of supreme moment for you to bear in mind.

(19.) We get to see that through history there is a great deal to be learned in regard to what has been the cause of the failures of nations. Historians are now beginning to look up and say there were great wars at various times. How did they spring up? Who were the statesmen? Why, they were statesmen who were always in wine. Look at the great riots and troubles that have arisen. What was their origin? Wine and strong drink. Even Alexander the Great is spoken of as "Alexander the Drunkard." and it is known that he died intoxicated. Historians will soon be able to pick from the history of the past that which was sober and that which was drunken in the history of mankind and of nations.

(20.) We have scored a point in legislation. Twenty-one years ago no statesman would have dared to think of legislation as touching the English Juggernaut. On the contrary, he would let our people roll under its wheels. and be killed wholesale, and think nothing about it; but now it is the ambition of statesmen to lead the van of temperance, and by-and-by Sir Wilfred Lawson would have more compeers perchance than he liked were it not that his heart is as as sound as his head.

(21.) Lastly, we have given up the notion pretty generally—those who are men of science and of thought have—of alcohol as a neccessity. That general expression of alcohol as a necessity has passed from our minds by the accumulated evidence derived from so many sources. We speak now of alcohol as a plague, we say it produces fever and kills; we speak of this as a pestilence, we say that it infects, and spreads, and devastates.

Twenty-one years ago we used to hear in our churches the minister pray, "From plague, pestilence, and famine, from battle and murder, and from sudden death," and we used to hear the congregation give the response, "Good Lord, deliver us." Now by the knowledge we have we declare:—"Yes; plague, pestilence, and famine, battle, murder, and sudden death, or none more or less linked up with this one agent, and we declare also that if we could say, and not only say but ensure ourselves, that we were delivered from this one agent, then the rest of our deliverance is indeed at hand.

Treatment of Epithelioma of the Cervix Uteri by Nitrate of Lead.—Prof. Chéron has obtained good results from the treatment of ulcerated epithelioma of the neck of the uterus with nitrate of lead. The author first cleans the part with a pledget of lint soaked in glycerin; he then injects a litre of warm water to which five grams of the perchloride of iron have been added. If blood flows as a result of this injection, not an uncommon accident, the wound must be dried with lint or cotton wool. Pure nitrate of lead mixed with lycopodium in powder is then blown over the affected part, and is kept in contact with it by means of a plug of cotton wool. The two powders are mingled in the following proportions:

Purified nitrate of lead, grams 15.
Lycopodium in powder, grams 30.

Under this treatment the suppuration as well as the offensive odor is markedly lessened; whilst hæmorrhage is arrested. After twelve or fifteen applications the congestion of the *cul de sac* is diminished, and the general condition of the patient is greatly improved.—*Practitioner.*

Soda, a Remedy for Burns and Scalds.—Accidental burns and scalds, even when not very severe, extensive, or dangerous, commonly cause so much pain for an indefinite time, depending probably as to duration and severity a good deal on the age of the sufferer, and on the greater or less degree of sensitiveness of the individual's skin or constitution—not forgetting the feverish reaction, and the dangerous internal secondary inflammations that are apt to follow in some cases, —that any easily applied and quickly available remedy and relief, without perhaps the immediate necessity of calling in professional assistance, will be acknowledged as a boon by most persons; and especially so, when it is remembered that the sooner the agonizing burning pain in the part can be allayed, the less chance there is of dangerous secondary effects, besides sloughing, etc., so severely trying to children and old persons.

The usual first application to these painful injuries, whether so-called *popular* remedies, or such as are usually recommended by members of the profession, are numerous enough, but cannot unfortunately hitherto be considered as generally successful in giving certain and speedy relief from pain, and too often, intense suffering. One friend will recommend that the parts be covered with flour from the dredger; another will advise fine cotton-wool, or wadding; another, starch in powder, or soap, or treacle, or the so-called Carron oil, etc.; but hardly one of such applications can be said to give more than very uncertain or temporary relief from pain; although perhaps, by occupying the attention of the sufferer, they may in this way prove of some mental benefit during his sufferings: being indeed employed really for want of anything better; although in fact, some of these applications, such as treacle, flour, starch, etc., prove so disagreeable in their after effects, being often difficult to remove and renew, as to add frequently to the poor patient's depression and suffering, owing to their adhering to the injured parts in dry cakes very irritating to the raw surface.

It is now many years ago (see the *London Med. Gazette* of March, 1844), that the author of this paper, whilst engaged in some investigations as to the qualities and effects of the alkalies in inflammations of the skin, etc., was fortunate enough to discover that a saline lotion, or *saturated* solution of the bi-carbonated soda in either plain water or camphorated water, if applied speedily, or as soon as possible, to a burned or scalded part, was most effectual in immediately relieving the acute burning pain; and when the burn was only superficial, or not severe, removing all pain in the course of a very short time; having also the very great advantage of cleanliness, and, if applied at once, of preventing the usual consequences—a painful blistering of the skin, separation of the epidermis, and perhaps more or less of suppuration.

For this purpose, all that is necessary is to cut a piece of lint, or old soft rag, or even thick blotting-paper, of a size sufficient to cover the burned or scalded parts, and to keep it constantly well wetted with the sodiac lotion so as to prevent its drying. By this means, it usually happens that all pain ceases in from a quarter to half an hour, or even in much less time.

Where the main part of a limb, such as the hand and fore arm or the foot and leg have been burned, it is best, when practicable, to plunge the part at once into a jug, or pail, or other convenient vessel filled with the soda lotion, and keep it there until the pain subsides; or the limb may be swathed or encircled with a surgeon's cotton bandage previously soaked in the saturated solution, and kept constantly wetted with it, the relief being usually immediate, provided the solution be saturated and cold.

What is now usually sold as bi-carbonate of soda is what I have commonly used and recommended; although this is well known to vary much in quality according to where it is manufactured,—but it will be found to answer the purpose, although probably Howard's is most to be depended on; the most common carbonate being too caustic. It is believed that a large proportion of medical practitioners are still un-aware of the remarkable qualities of this easily-applied remedy, which recommends itself for obvious reasons. — F. Peppercorne, L.R.C.P., M.R.C.S., in *The Practitioner.*

EXPERIMENTAL RESEARCHES UPON THE INOCULABILITY OF VENEREAL DISEASES IN THE LOWER ANIMALS.—In the *Lyon Médical,* January 8th, 1882, Dr. Rebatel publishes the results of some attempts to inoculate the lower animals with venereal diseases. Gonorrhœal pus was placed in contact with the urethral mucous membrane of dogs and rabbits without exciting any inflammatory action. Attempts were then made to excite a gonorrhœal conjunctivitis by placing the pus under the eyelids of the animals, but with a negative result. In these experiments pus was used from gonorrhœas in various stages but under no circumstances was any conjunctival or urethral inflammation set up. Many attempts were made and every precaution taken but negative results were invariably the result.

In regard to soft chancre, the author says: "Most writers hold that the soft chancre is easily given to animals by direct inoculation. Many experiments have been made among which are those of M. Basset, who says that every time he inoculated an animal with pus from a chancroid, he obtained as a result an ulceration presenting all the characteristics of a soft chancre which was auto inoculable and that if a man were inoculated with it a chancoid resulted.

On the other hand we have the more recent experiments of MM. Horand and Peuch, who were never able to get other than negative results in their trials.

The experiments of the last named authors, carried on at the veterinary college of Lyons, on dogs, cows, horses, etc., were conducted with a care and attention which gives them great value. The results of the experiments undertaken by me were in accord with those just quoted. I made a great number of trials, varying the surroudings in every way, and taking every precaution to hold the virus in contact with the part to be inoculated, but I never obtained a chancroidal ulceration, the pus of which could be inoculated in tu n, nor even an ulceration of any kind. The day after the inoculation no trace of it was to be found or at most a light crust which disappeared within twenty-four hours. M. Blanc, interne at the hospital, also made a series of like experiments, the results of which he authorizes me to add.

The first series consisted of fourteen experiments on dogs and rabbits The inoculations were made with a point of a bistoury under the skin of various parts of the body (neck, ear, back, nose, and groin). The next day no trace of the operation could be found.

In the second series, consisting of eleven experiments, the virus was placed in contact with the shaved and scarified skin, but invariably with negative results.

In nine experiments the inoculation was made with the bistoury and the wound hermetically sealed with collodion and gold-beater's skin, which was found in place the next day, but the inoculation was not successful.

In nineteen experiments chancroidal pus was injected under the skin with a hypodermic syringe, there was only a slight swelling observed the next day, which speedily disappeared.

In some experiments the inoculated spot was irritated with various substances but no positive results obtained. Finally, in the last series of experiments, an inguinal gland was exposed and pus from a chancroidal bubo was injected into it. The cutaneous wound healed by first intention and three days afterward no trace of the operation was visible.

The experiments made by M. Blanc were conducted with a care which should cause us to look upon them with confidence. Those which I made, and I made a great many, always gave me like results. How can we reconcile these results with those obtained by very distinguished experimenters, among them a member of the school of Lyons, who having had the courage to inoculate himself with pus of a soft chancre which he had inoculated upon an animal obtained, unfortunately for him, a positive result? I shall not even attempt it, but shall content myself with saying that the results obtained by many observers corresponded in every way with those of MM. Horand and Peuch, who were able to obtain only negative results."

In regard to the inoculation of syphilitic virus, the author says he was not surprised to find that he was unable to obtain positive results, as has been the case with experimenters who have preceded him. The trials were made with the care which characterized those made with chancroidal virus and consisted in placing in the subcutaneous tissue of the groin of a healthy bitch a hard chancre with the indurated peripheric zone about it. The wound healed by first intention. For some days there was a swelling in the neighborhood of the incisiou, but the glands did not enlarge, and at the end of a week no trace of the operation was present and the animal, which was kept under observation for many months, presented no symptom of disease.

The experiment was also made of injecting about eight ounces of defibrinated blood, obtained from a patient with secondary syphilitic symptoms, into the jugular vein of a young dog. The only symptoms observed were those due to the wound and the injection into the blood of such a large quantity of blood from an animal of another species. No sign of constitutional syphilis manifested itself.

Finally, the two animals being confined together, the bitch became pregnant and gave birth to a litter of eleven pups which presented no symptoms of hereditary syphilis.

The paper concludes with the hope that conditions may yet be found under which it may be possible to inoculate the lower animals with syphilis, in which case culture experiments can be instituted and possibly preventive inoculation for the disease be successfully carried out.

DISORDERS OF NUTRITION IN CHRONIC LEAD POISONING. — The various changes which lead poisoning causes have been the subject of close study. The colic, paralysis, the symptoms referable to the brain and circulation. The secretions even have been examined for lead and it has been found in the sweat and the urine. One subject, however, has not received the attention which it deserves, that is the disorders of nutrition present in saturnine intoxication. M. Gaucher has recently made a number of observations on this subject and has come to the following conclusions, which are published in the *Revue de Medicine*, No. 11, 1881:

1st. In cases of lead poisoning nutrition is lowered, metamorphosis of tissue is diminished, the specific gravity of the urine is less than normal, the excretion of urea, of the chlorides and of the phosphates being diminished.

2d. During the acute period of the poisoning there is great destruction of the red blood corpuscles. The result of this destruction is the saturnine icterus (a hæmatogenic jaundice), and the presence of blood pigment in the urine.

The anæmia observed in these cases must be looked upon as due to the above mentioned changes in the blood.

3d. In the beginning the urine is small in quantity and of a deep color; later, however, it becomes of a light color and very abundant. This polyuria seems to be of nervous origin.

4th. There is often observed in cases of lead poisoning a transitory albuminuria which seems to be due to the lack of nutrition in the tissues, while the albumen found in the urine of nephritic patients is derived from the blood plasma. (Ch. Bouchard).

5th. The elimination from the organism of substances taken as medicine is slow and often intermittent and irregular.—*Lyon Médical.*

THE CAUSES OF THE REDUPLICATION OF HEART SOUND.—Physiological reduplication at the end of inspiration is accounted for by the fact that the capacity of the pulmonic system being increased, the obstructive burden upon the right ventricle is lessened—consequently the systole of the latter is shortened. The lessening of the duration of the systole of the right ventricle implies anticipation of the diastolic closure of the pulmonary semilunar valves; so there is a reduplicate second sound, the primary element being pulmonic. In pathological reduplication the origin may be in either the right or the left ventricle. If from any cause the systole of one of the ventricles be protracted, the diastolic closure of the valves of its great vessels of exit will be delayed also, and so the second sound will be double.

Guttmann supports the view of non-simultaneous closure of the aortic and pulmonary valves, without giving reasons for the proximate cause. He says, however, that it is not unreasonable to explain it by a change in a single set of the semilunar valves causing their tension to take place in two distinct movements. This hypothesis appears to me impossible to accept; such change would surely be likely to produce murmur rather than reduplication. But Guttmann says that reduplication of the second sound in mitral stenosis is difficult to account for satisfactorily, and in this I quite agree with him. He adds, "The broken diastolic sound is (so far as I have observed) certainly not loudest over the large vessels, but at the lower part of the sternum and near the ap of the heart, and is further absent in the mo marked cases in which the conditions most fav able to the postponement of the closure of th pulmonary valve are present in their highest d gree." Reduplication, however, does not occ in mitral regurgitation, where the conditions relative blood pressure are profoundly altere Guttmann considers it probable that the redupl cation may arise at the narrowed mitral orifi itself, that it may be a component part of a pr systolic (or, as he terms it, diastolic) murmu and adds that it has been conjectured that th first element of the reduplication is the diastoli pulmonary sound, and the second is produce toward the end of the diastole, by the contra tion of the hypertrophied left auricle. In fac the hypothesis reverts to the last I have mention ed as probably explaining some cases of redu plication of the first sound.

I consider, then, that there is a theory of auri cular causation of reduplication of the secon sound which is well worth considering, and tha we have before us as plausable explanation of the phenomenon—

(*a*) That it is due to non-simultaneous closure of the semilunar valves in the aorta and the pulmonary artery respectively.

(*b*)That it is the effect of a sudden tension of the mitral curtains after the normal second sound.—Dr. E. Sansom in *Med. Times and Gaz.*

TRUE OZÆNA.—M. Calmettes, in a recent number of *Le Progres Médical* (October 8th), has made a critical study of the works and theories on the above subject. The study of this affection has entered on a new phase, through the labors of Zaufal, Michel, Hartmann, and Gottstein. The thesis of M. Martin, a memoir giving the result of two autopsies by Hermann Krause, and a large work by Cozzolino, giving a resume of all the different opinions on the subject, are the latest additions to the literature of this disease.

The epithet "true ozæna" is used to distinguish this disease from those cases of simple nasal catarrh in which the mucus collected in the nostrils is in the morning somewhat fetid. Some cases ozæna with notable fetidity are due to bone lesions, syphilitic or traumatic. But the great majority of cases present such a uniformity of symtoms as to suggest the existence of ulceration in all. They are generally observed at the period of puberty, and when met with in infants it will be found that the troubles date from that period of life. Many explanations and theories concerning this affection were put forward before rhinoscopy was currently practiced. Saurage, and recently Dr. Tillot, believed that in such cases there existed a stricture of the nasal fossæ, which caused the retention and subsequent decomposition of the nasal secretious. Trousseau, who had remarked that children suffering from this affection often enjoyed flourishing health, admitted a special fetidity of the secretions analogous to bromhydrosis. But, unfortunately for the patients, the general opinion was that ulceration existed, and caustics were employed, with or without irrigations.

The patients say that the nasal secretions are not liquid; that every second or third day they with difficulty expel from the nostrils large masses of hardened, greenish mucosities, of exceedingly fetid odor. They suffer from cephalaligia, and sleep sometimes with the mouth open the night preceeding the expulsion of these masses. Generally there is no sign of scrofula, no anterior nasal affection, and rarely auricular complications, according to Michel, contrary to the opinion of Zaufal. The anatomical pecularity in these cases has been shown by Zaufal to consist in the great width of the nasal fossæ, due to an exceedingly small lower turbinated bone, which can sometimes with great difficulty be distinguished; the middle turbinated bone is often of normal dimentions, and the mucus membrane which covers it smooth, red, and sometimes granular, but without any trace of ulceration; this is demonstrated in the five autopsies of true ozæna which have been published. Before the nose is irrigated there is such an abundance of crusts in the nostrils that their abnormal width is not evidence, and there seems to exist a number of grayish ulcerations.

In accordance with the anatomical abnormalities found, Zaufal considers that the disease is due to the extreme width of the nasal fossæ, which permits the stagnation of mucosities and their decomposition, as they are constantly exposed to a current of hot and humid air; this renders the secretion fetid. Michel considers that this is not sufficient to explain the extreme fetidity, and considers the sphenoidal and ethmoidal tissues must be affected. Gottstein holds that histological examination proves the existence of a catarrhal state of the mucus membrane, with atrophy and partial disappearance of its glands. These theories, with the exception of that of Zaufal, which seems the best founded, are not in accordance with symptoms observed in the majority of cases. The treatment indicated by the nature of the disease gives excellent results. After a few irrigations with a solution of chlorate of potash, Gottstein advises a tampon of cotton wool to be placed in one of the nasal fossæ; this tampon, occupying the place of the absent inferior turbinated bone, narrows the nostril sufficiently to enable the patient to expel the mucus secretions in a liquid form, before they have acquired any odor. The tampon, soon covered with adherent mucosities is expelled spontaneously on the second or third day. The effect of this measure is so assured that it is not absolutely necessary to remove the dried crusts by preliminary irrigation. Gottstein is of the opinion that this application irritates slightly the atrophied mucus membrane and induces a more normal secretion; but this explanation appears, to say the least, insufficiently, as the tampoon is applied on one side only. This treatmént seems to prove very effectual, and is even used by M. Fournier, who considers the disease due to a fetid secretion (exhalation) from the glands of the nasal mucus membrane.—*Med. and Surg. Reporter.*

Direct Transfusion for the Hemorrhages of Typhoid Fever.—At a recent meeting of the Clinical Society, held in London (November 28), Dr. Mahomed related two instances where he had employed direct transfusion with marked, but temporary, benefit. In the first case, that of a man, twenty years of age, there was a collapse on the twenty-fifth day of his typhoid; on the thirty-fifth day, he had a severe hemorrhage, which reoccurred twice on the following day. His pulse had reached 160° F., and he was fast sinking when the operation was performed. He rallied and even gave hopes of recovery, but six days later another hemorrhage occured, and he began again to fail, dying on the forty-fourth day of the fever, nine days after the operation.

The second case was that of a married man, twenty-five years of age. He had a relapse on the twenty-sixth day. Two days later he had a hemorrhage, four days later three severe hemorrhages, and he fell in a state of exhaustion. Transfusion was performed the next day, but the patient died five days later from some lung complication. Dr. Mahomed stated that hemorrhage occurs in about seven per cent, of all cases, and that in them the fatality is about fifty per cent., and that in these instances one-half die from immediate effects of the loss of blood.

For these cases he advocates transfusion, and recommends Aveling's apparatus.—*Medical Press and Circular.*

The Influence of Sweating on the Digestive Power of the Gastric Juice and Upon the Acidity of the Urine.—In three patients with chronic gastric catarrh and in four healthy individuals, Sassezki studied the effect of diaphoresis on the gastric juice and the urine. He found that as the digestive power of the gastric juice became less and its acidity and that of the urine fell in direct proportion to the amount of sweat secreted.

This being the case, the author proposes, in the case of dyspeptics in whom there may be an abnormal amount of sweat secreted, to try the effect of atropine in order to check the diaphoresis and at the same time increase the acidity and digestive power of the gastric juice. It is his opinion that the gastric juice could be acted upon in the same way by making the urine alkaline.—*St. Petersburger Med. Woch.—Le Méd. Practicien.*

Pilocarpine in Diphtheria—The Bulletin Général de Therapeutique (Dec. 30, 1881), reproduces from the Gazette Medico-Chirurgical de Pesth an article of Dr. Greza-Faludi on this subject. The conclusions he arrived at may be formulated as follows:

1st. Pilocarpine internally administered is an agent of the greatest value in the treatment of diphtheria.

2d. Pilocarpin causing, as it does, an increased flow of saliva, is useful in the many inflammatory affections of the buccal and pharyngeal cavity, but for some cases it is not superior to chlorate of potash or perchloride of iron, nor is it in any sense a specific for any form of disease.

3d. It is of the greatest service in light cases of diphtheria which are confined to the pharynx.

4th. Unfortunately it does not prevent the spread of the morbid process to the larynx and trachea, and when such spread takes place a fatal termination is probable.

5th. It has no effect in bad cases where the diphtheritic membrane is present in the larynx and air passages.

6th. The depressing effects of pilocarpine in children should not be forgotten, and stimulants, particularly alcoholic in character, should be given in connection with it.

From this it is easy to see that pilocarpine is not much if any better than other methods heretofore employed against diphtheria and that we must not look upon it in the light of a specific against this disease.—*Union Med. de Canada.*

ADDISON'S DISEASE.—At a meeting of the Pathological Society of London, held Tuesday, December 20, 1881, reported in the *London Lancet*—

Dr. Fenwick showed a specimen of Addison's diseese of the supra-renal capsules, from a case without bronzing of the skin. The man was recently in the London hospital, under the care of Dr. S. Fenwick. He was a laborer who had had fair health. About four months previously he caught cold; a month afterwards his urine became high-colored and scalding, and he was languid and suffered from vomiting. On admission he was very languid; the pulse was very feeble; there was no pigmentation of skin or the mucous membranes, and no signs of visceral disease; there was tenderness over the epigastrium. Addison's disease was diagnosed. On September 28th, on attempting to get out of bed, he fainted, and soon after died. At the autopsy the organs generally were healthy. The liver was enlarged, and the left kidney was much larger than the right. Both supra-renal capsules were enlarged, hard, and nodulated; they were translucent, and in places yellow. He had collected all the cases of Addison's disease recorded in the Pathological Transactions during the last fifteen years, and found they were thirty in all, twenty-three males and seven females. The youngest age of males at death was five, the oldest fifty-five; the youngest age of females nineteen, and the oldest fifty-five. Average duration of illness in non-bronzed cases was 4·8 months, but in bronzed cases it was 26·8 months. If patients, without bronzing of the skin, died in one-fifth of the time of the others, the greater fatality was due to the constitutional disease, and the mischief causing this must be more intense. The two non-identical effects must have two different causes, or the same cause acting upon two different parts; the former idea might be certainly excluded. He thought the constitutional changes were due to degeneration of the medullary part of the supra-renal capsule, while the pigmentation was due to a chemical change in the blood resulting from the degeneration of the cortex of the capsule. The skin was well bronzed in nineteen cases, slightly or not at all in eleven. In four out of these eleven cases only one capsule was affected, and more often the right. In the case shown to-night the disease clearly mapped out the medulla. Dr. Wilks said that Addison had known that in the early stage the bronzing was less marked, and thought that some cases died before bronzing occurred.—*Medical and Surgical Reporter.*

SURGERY.

NERVOUS FELON.—M. Quinquand described under this name in *la France Medicale* a singular affection which has many analogies to local asphyxia of the extremities, but differs from it in certain respects and resembles it also in certain sclero-dermic syptoms. It occurred in a woman of forty-five years. The affection commenced in 1874, in both hands, which were at once the seat of lancinating pains occupying also the right anterior brachial region and especially the median line of the member. The woman indicates precisely with her finger the course of the median nerve. These painful sensations radiate over the internal part of the arm, and to the ends of the fingers.

Three or four months after it began, the pain became more severe in the right thumb which became swollen and indurated, especially at the extremity. The physician called in at this time diagnosticated a felon; but there was no trace of suppuration; the epidermis marked, presented fissures at a circumscribed point; then a slight desquamation followed. It was a *dry felon*, without true syanosis suppuration.

Fifteen days after, a new attack lasting from eight to ten days occurred, terminating in the same manner. To this succeeded a third, then a fourth. It was a a false *recurrent felon.*

In 1875 the right index finger was the seat of six attacks of dry felon with cracking.

"The skin," said she, "was scotched around the felon."

After the painful attacks there was a falling out of the nail which renewed itself a little irregularly.

The ring and little finger were the seat of incomplete attacks only, with temporary anesthesia.

On the left side the painful swelling was scarcely marked; nevertheless there was a rapid falling out of the nails by small fragments; a sort of ungual desquamation.

No traces of suppuration were ever remarked, even after incision of the skin. The left middle finger has had painful attacks; the nail has not fallen off. The ring finger was slightly indurated but caused the patient less pain; it was the same with the little finger. At certain times the skin was adherent to the bone and seemed to have become too short. There were other attacks of the same kind the years following, but in 1879 there was only a tendeney to a dullness, and in 1880 the patient was totally cured. To sum up says M. Quinquand, it occurred in a rheumatic woman, who for five years presented symmetrical attacks of the sides of the upper extremities, characterized by slight swelling, heat, arterial pulsations, well marked redness and especially, atrocious attacks of pain, recalling the pains of the most violent felon, with complete insomnia. These attacks terminated at the end of fifteen days by fissuring of the end of the finger, falling off of the epidermis and sometimes of the entire nail; the skin was sclerosed, adherent to the periosteum and to the bone which atrophied without traces of suppuration. As a prelude to the painful period there was noticed a tendency to dullness of the fingers: this same disagreable sensation of cold continued many months after cessation of the pain.

What makes this case especially different from local asphyxia is the atrophic and adherent state of the skin to the subjacent tissues—cellular tissue, periosteum and bone. . So M. Quiquand thought this observation ought to attached to the group of sclerodermes provided a variety of them be made. It seems that in every case nervous troubles ought to play an important role, indeed the nerves of the fore arm were painful on pressure independent of the paroxysm.

The treatment employed, moreover consisted principally in repellents, blisters, and heated points on the course of the nerves of the anterior trachial surface.—*Journal de Medicine*, Jan. 1882.

THE PRE-CANCEROUS STAGE OF CANCER, AND THE IMPORTANCE OF EARLY OPERATION.—Gentlemen: The patient who has just left the theatre is the subject of cancer of the tongue in an advanced stage. As I demonstrated to you, the lymphatic glands are already enlarged. It is hopeless to think of an operation, and there is nothing before him but death, preceeded and produced by a few months of great and continued suffering. His case, I am sorry to say, is but an example of what is very common. Not a month passes but a case of cancer of the tongue presents itself in this condition. The cases which come whilst the disease is still restricted to the tongue itself are comparatively few, nor does this remark apply only to the tongue. "Too late!" is the sentence written but two legibly on three-fourths of the cases of external cancer concerning which the operating surgeon is consulted. It is a most lamentable pity that it should be so; and the bitterest reflection of all is that usually a considerable part of the precious time which has been wasted has been passed under professional observation and illusory treatment. In the present instance the poor fellow has been three months in a large hospital and a month under private care. I feel free, gentlemen, to speak openly on this matter, because my conscience is clear that I have never failed when opportunity offered, both here and elswhere, to enforce the doctrine of the local origin of the most forms external or surgical cancer, and the paramount importance of early operation. I have tried every form of phraseology that I could devise as likely to impress this lesson. Nearly twenty years ago I spoke to your predecessors in this theatre concerning the "successful cultivation of cancer;" telling them how, if they wished their patients to die miserably of this disease, they could easily bring it about. The suggestion was, that all suspicious sores should be considered to be syphilitic, and treated internally by iodide of potassium, and locally by caustics, until the diagnosis became clear. More recently, I have often explained and enforced the doctrine of pre-cancerous stage of cancer, in the hope that, by its aid, a better comprehension of the importance of adequate and early treatment might be obtained. According to this doctrine, in most cases of cancer of the penis, lip, tongue, skin, etc., there is a stage—often a long one—is present, and upon it the cancerous process becomes engrafted. I feel quite sure that the fact is so. Phimosis and the consequent balanitis lead to cancer of the penis; the soot-wart becomes cancer of the scrotum; the pipe-sore passes into cancer of the lip; and the syphilitic leucoma of the tongue, which has existed in a quiet state for years, at length, in more advanced life, takes on cancerous growth. The frequency with which old syphilitic sores become cancerous is very remarkable; on the tongue, in particular, cancer is almost always preceeded by syphilis, and hence one of the commonest causes of error in diagnosis and procrastination in treatment.

The surgeon diagnoses syphilis, the patient admits the charge, and iodide of potassium seems to do good; and thus months are allowed to slip by in a state of fools' paradise. The diagnosis, which was right at first, becomes in the end a fatal blunder, for the disease which was its subject has changed its nature. I repeat that it is not possible to exaggerate the clinical and social importance of this doctrine. A general acceptance of the belief that cancer usually has a pre-cancerous stage, and that this stage is the one in which operations ought to be performed, would save many hundreds of lives every year. It would lead to the excision of all portions of epithelial or epidermic structure which have passed into a suspicious condition. Instead or looking on whilst the fire smouldered, and waiting till it blazed up, we should stamp it out on the first suspicion. What is a man the worse if you have cut away a warty sore on his lip, and, when you come to put sections under the microscope, you will find no nested cells? If you have removed a painful, hard-based ulcer of the tongue, and with it perhapse an eighth part of the organ; and, when all is done, and the sore healed, a zealous pathological friend demonstrates to you the ulcer is not a cancerous, need your conscience be troubled? You have operated in the pre-cancerous stage, and you have probably effected a permanent cure of what would have soon become an incurable disease. I do not wish to offer any apology for carelessness, but I have not in this matter any fear of it.—Part of a Clinical Lecture by Jonathan Hutchinson, in the *Brit. Med. Jour.*

LITHOLAPAXY: WHAT IS ITS VALUE?—When a novelty in surgery claiming superior merit is promulgated under good auspices, it becomes the duty of those to whom it has been subjected to trial to make known the results of their experience.

Shortly after reading in the *American Journal of the Medical Sciences* for January, 1879, the paper of Prof. Henry J. Bigelow, M. D., of Harvard. the operation which he has styled "litholopaxy." or lithotrity completed at one operation, I subjected a patient with stone to the new process. The favorable issue of this case led me to repeat the new operation upon the next case that offered; this was also successful; and so it happens that since that date I have had occasion to employ, or to advise, no other operation for stone in the adult.

I have been led to this course by the simple fact that the bladder has invariably shown the unexpected and entire tolerance of the prolonged operation which Prof. Bigleow was the first to demonstrate that it possesses, when properly managed.

In thirty-four cases in which I have been more or less immediately concerned since January, 1879, no stone has been encountered, although the majority were of considerable size, which could not be grasped and crushed by the lithotrite; and in no instance has there been a failure to free the bladder from stone in a reasonable time at one operation. Of these thirty-four cases in which the lithotrite has been used by myself, Dr. Keyes, or Dr. L. A. Stimson, singly or conjointly, thirty-three have resulted in reasonably prompt and satisfactory cure. In the solitary fatal case there was pre-existing suppurative inflamation of both kidneys, masked by the aggravated sufferings of the patient, and suspected, but not certainly made out. It was evidently not a fit case for this or any other operation.

In one of the latest cases, an otherwise healthy man of sixty-eight, who applied to me for bladder disease of long standing, not knowing he had stone, five grains of dense brown urates were removed in seventy-five minutes. There was but one stone in this man's bladder, and its grasp was over an inch and a half. The patient was up and about within a week.

In the latest case, a man of seventy-five, with quite a large prostate, four hundred and fifty-three grains of phosphate stone were removed in sixty-five minutes, and the bleeding (from the prostate) was unusually profuse; but there was no chill, and the sequelæ were favorable. In these cases the operation was done entirely by Dr. Keyes.

The cardinal feature of this operation, which explains the remarkable absence of after ill effects, is that the bladder, relieved from the presence of a foregn body in its cavity, is left at rest, and free from any cause of further irritation. In this respect it shares the great advantage of lithotomy.

In less than a third of the cases the catheter has been required for a day or two after the operation; but the subsequent atony of the bladder, which we had been led to anticipate from the experience of ordinary lithotrity, has been conspicuously absent. In fact, in no case which has passed within my cognizance, have there been any symptoms showing other than complete tolerance on the part of the bladder under gentle and judicious manipulation, and entire absence of bad effects afterwards.

In a certain proportion of the cases in which there had been chronic cystitis previous to the operation—say one in six or eight—the patients have continued to form phosphatic gravel in the bladder from time to time, but this tendency has been antagonized by systematic washing out by means of the fountain syringe.

The youngest of our patients subjected to litholapaxy was a boy of nineteen. In children I am not prepared to advise this operation, although the instruments we have employed are not larger than the ordinary lithotrites. But in view of the narrowness of the urethra before puberty, and of the fact that I have never lost a child after lithotomy in between thirty and forty cases, I should give preference to the knife.

Cases of stone will doubtless occur in which urethral stricture or rigidity may prevent the employment of large evacuating tubes so desirable in the new operation, or in which a patient's feebleness may render it nesessary to cut short the proceedings before the bladder has been entirely cleared out, but these must be exceptional.

From my experience of the last three years, I judge that the operation of lithotomy, except in children, bids fair to become a somewhat rare and unusual proceeding, in the presence of a safer and equally efficient remedy.

Let us give due credit, then, to Bigelow's original improvement in the treatment of stone in the bladder, which, unless I am in error, promises to add great honor to American surgery.—By W.H. Van Buren, M. D., LL. D., in *Medical News*.

REGENERATION OF NERVES AFTER SECTION.—At the meeting of the Société de Biologie of January 21st, 1882, M. Brown-Sequard remarked that he had already shown that a nerve can be regenerated after section. He wished on this occasion to bring another proof of the same thing. He presented to the Society the hind leg of a monkey which showed a complete reuniting of the sciatic, from which a piece had been resected only two months before. M. Brown-Sequard did not think that such perfect regeneration of this nerve had ever been observed in man so short a time after section.

In the remarks that followed M. Krishaber spoke of a case where voice had returned, after the patient had been aphonic, following section of the recurrent laryngeal. The same thing had been observed in animals after resection of the same nerve.

M. Brown-Séquard spoke of sensation returning in the part supplied by the supra-orbital nerve at a few months after the resection of from two-thirds of an inch to two inches of its trunk, and in many cases the sensibility seemed greater than normal.—*La Tribune Médicale.*

FLEGMONS OF THE PALM OF THE HAND.—Flegmons of the palm of the hand have been divided into three varieties:

1. Epidermic Flegmons: but this inflammation of the epidermis which arises in a bulla, cannot be considered as a true flegmon, since there is no cellular tissue, and without cellular tissue there can be no flegmon.
2. Subcutaneous flegmons.
3. Subaponeurotic flegmons.

This affection is determined for the most part by its causes; the most frequent are traumas, which may be short and violent, such as wounds, blows, and falls; they may be long and repeated, as in the continued irritation of the skin by rough and painful work. Often, then, the point of departure is a callosity which becomes inflamed.

Certain workmen have very thick skin on the palm of the hand, and there are very often found especially on the inferior region, the predilected seat of inflammation, one or more callosities which tend almost inevitably to result some day or other in one of the forms of flegmon noted above. The flegmon suppurates, what happens? The pus collects beneath the integument and seeks an issue; this it can do in three different ways:

1. Through the skin which becomes perforated in one or more places, the epidermis is more or less pushed up by the pus, constituting the variety of abscess known as the "shirt button."

2. Towards the inter-digital spaces, on account of the communication of the cellular tissue of the two regions.

3. At last passing over the metacarpo-phalangeal articulations, the pus can arrive upon the dorsum of the hand.

It may be that in some cases the pus will remain circumscribed; in others it extends over the whole palmar surface. It can thus gain the synoviæ; then the situation becomes much more grave, and if not arrested in time, the complications of the diffuse flegmon, with articular and osseous lesions, and sometimes even loss of the upper extremity, are seen to supervene.

Hence, a certain reserve in the prognosis and promises of cure to the patient. Moreover, it would be always well to say that the movements of the fingers for a greater or less time afterward will be limited and stiff.

The treatment demands great attention upon the part of the surgeon, who should not wound in his incisions the so important nerves and vessels of this region. The vessels, and especially the superficial palmar arch, are to be respected. It will be recalled that the palmar arch is found almost on the line of the palmer fold, and that the vessels which it sends to the fingers are directed towards the inter-digital spaces and the sides of the fingers. It is then into their interval which corresponds to the axis of the fingers that the bistoury must be plunged. But it must not go too deeply, and when we are sure that we are on the aponeurosis, we take a cannulated sound to enlarge the opening, so as to give free discharge to the pus.

So much said for the operative procedure. Let us now see what will be the indications. When it is seen in the beginning, and the characteristic pain limited to a certain point, which has been signalized as a sure sign of flegmon, is observed, it is not necessary to delay plunging the knife into the affected part. A small amount of blood is brought, the patient feels immensely relieved, and the flegmon is arrested.

Without this it would surely keep on in its invading march. When there is already a bulla, it is necessary to commence by removing completely with the scissors the callosity and the detached skin, then bathe and cleanse with carbolized solutions, the skin which is to be examined with care in order to ascertain its lesions; and if there is a place, to give exit to the pus collected below by means of an incision.

One very important thing is to observe in every particular the rules of antiseptic dressing, and, when there is need, to put a drainage tube into the wound. The treatment will be completed by some indispensable additions, which are the following: Put the member into an elevated position, plunge it once or twice a day into a warm and prolonged local bath, and the rest of the time keep the hand poulticed. At last, as a derivative, a purgative will be useful. With these procedures, flegmons of the hand will be cured quickly, and diffuse flegmons will be prevented.—*Le Medecin Praticien*, Jan. 14, 1882.

Tepid Water in Chronic Cystitis.—In chronic cystitis accompanied by a little fever, ammoniacal urine, and charged with mucus, with frequent desire to micturate, M. Thornton, after emptying the bladder, recommends the injection of at first four ounces of tepid water, which is allowed to run out immediately afterward; then an injection of the third part of the following solution: Quinine, gr. xvi; sulphuric acid, q. s., distilled water, ℥ x. The liquid thus injected is maintained some seconds in the bladder, after which two thirds are allowed to flow out, while the remainder is left for an hour in the urinary reservoir. This injection produces a very slight smarting, and after a treatment of some days the urine becomes acid and no longer contains mucus. —*Medical Press and Circular.*

Subcutaneous Nerve-Stretching.—Billroth treats sciatica by subcutaneous nerve-stretching. The patient is placed flat upon his back. the leg is extended, and then the thigh flexed strongly upon the trunk. This puts the sciatic nerve upon the stretch.

OBSTETRICS.

Spontaneous Cure of Vaginal Hernia.—An extraordinary case of spontaneous cure of vaginal hernia, followed by perforation, has occurred in the service of M. Auger, of the St. Antoine Hospital. A woman, aged twenty-five years, mother of two children, became for the third time *enciente*, and being displeased at this new pregnacy, consulted a midwife as to the best means of procuring abortion. Injection of tepid solutions of course salt was advised and practiced. The syringe employed had a long canula, and its introduction into the vagina caus-considerable pain. Three injections were used, an interval of a week was allowed between each, and soon hemmorrhage very abundant was excited. On the day of her entry into the hospital the patient, on sneezing, felt a tumor in the vagina, and soon it appeared at the orifice. Frightened, she came to the hospital, when, on examination, a tumor of a dark violet color, and resembling a loop of intestine, was observed between the labia. It was soft and seemed to contain gas. On exploring with the finger in the vagina the hernia was partially reduced, but it was impossible to find the point through which the intestine passed, neither could the os uteri be reached. However, no loss of substance could be detected in the recto-vaginal wall. There was no neausea or vomiting, the pulse was not accelerated, nor was the temperature lowered; the abdomen was not tympanitic. Rest and constant poulticing were ordered. The following day the tumor was observed to be of a darker hue, which toward evening, became still blacker and more salient. It also smelt gangrenous. The general health remained always undisturbed. On the afternoon of the third day the bowel burst, giving exit to the hardened fecal matter, mixed with blackish and fetid liquid, and a great quantity of gas. For two days fecal matter continued to pass through the artificial anus in abundance, but on the fourth day it had completely ceased, the bowels evacuating themselves through the rectum regularly. On passing the finger into the vagina no trace of the recent perforation could be found. Examination by the speculum gave no better results. On the twentieth day of her residence in the hospital the patient returned home in her usuul health.—*Med Press and Circular.*

EXTERNAL VERSION.—The conclusions of Dr. Hubert (*Lyon Medicale*) regarding version by external manipulation, upon the experience of thirty-four trials, in all but one of which he was successful, are as follows: (1.) External version should be done before labor begins, or as soon as possible after it has set in. (2.) It may be practicable, however small the amount of liquor amnii, and sometimes even after its escape. (3.) As a rule we should bring down the pole of the fœtus which is nearer to the centre of the pelvis. (4.) The mother's abdomen should be relaxed to utmost, and the manoeuvres should be practiced in the intervals between the pains. (5.) The contra-indications of the operation are few, and its advantages are indisputable.—*Med. Digest.*

CAPSICUM IN UTERINE HEMORRHAGES.—Dr. J. Dhenon (*Le Progres Medicale*) says: From a large number of physiological experiments I concluded that capsicum is a vascular remedy, acting especially on organs whose circulation is singularly active, such as the utero-ovarion, respiratory and encephalic. Cayenne pepper acts like ergot of rye on the smooth fibre of the vascular coats, either directly or through the vaso-motors. But it presents a great advantage over ergot, in that it is well borne by the stomach, whose functions it simply stimulutes. I have used it for several years in uterine hemorrhages with the best success whether these hemorrhages were due to fibroid tumors, fungous endometritis, or even to epithelioma. The formulæ at which I have arrived are as follows:

℞. Powdered capsicum, 5 grammes. Make thirty pills. One before each meal, increasing to six pills a day.

℞. Aqueous extract of capsicum, 5 grammes, Make thirty pills. To be given in the same doses as No. 1.

℞. Tincture of capsicum, 5 grammes; rum, 30 grammes; gum julep, 120 grammes. Take by spoonfuls every two hours.

I have also successfully used capsicum in congestive headaches so common in the gouty, and in the hæmoptysis of tuberculous patients.—*Med. Digest.*

GRAY'S 'Anatomy' has been translated into the Chinese language, and published in six volumes at Foochow.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, February 25th, 1882.

Miscellany and News.

OUR NEW OFFICE.—For some months we have been engaged in erecting a building for the sole accommodation of the publication and printing offices of the LANCET AND CLINIC and OBSTETRIC GAZETTE. The building, located in the centre of the city, at Nos. 199 and 201 West Seventh street, is nearly finished and this week we take a new departure and enter our new home. Our quarters will be commodious and furnished with all modern appliances and improvements.

The office of the LANCET PRESS will be at the same place, largely refurnished with new type, and ready to execute first-class book and job printing.

THE Medical College of Ohio Alumni Association will hold its annual meeting in the College Amphitheatre on Wednesday, March 1st, at 2 p.m. The annual address will be delivered by Dr. Geo. B. Evans, of Dayton.

FOREIGN BODIES IN THE VAGINA.—In *Le Med. Practicien*, January 7, 1882, is reported the case of a woman who complained of leucorrhœa which had persisted for two months. Some pain was also complained of. An examination revealed a long hard body wedged across the vagina, which, being removed, was found to be the pipe of a vaginal syringe. The patient recognized it as one she had lost about two months before, but for which she had searched in vain, "not having looked in the right place," as she expressed it. From which case the author draws the obvious conlusion that after the use of the syringe care should be taken that the whole of it is removed.

The circumstance reported above is not unlike one that happened in the gynæcological department of a dispensary not a thousand miles from this city, where the assistant, who had been examining several patients, missed his trivalve speculum and only found it when one of the patients, whom he had treated some fifteen minutes before, came to him and asked whether she would have to wear the instrument he had just inserted very long as it interfered materially with locomotion.

SANITATION AND PUBLIC EDUCATION.—A bill introduced into the Legislature of Ohio by Hon. Harvey Rice, furnishes food for some remarks on this very important question. School hygiene is the foundation stone of public health.

The young and growing body is profoundly influenced for good or evil by hygienic surroundings. Bad sanitary conditions may so impress the delicate organization of a naturally weak child, as to render him a lifelong invalid, and may so influence a vigorous constitution as materially to lessen his mature powers for private and public work.

It is very gratifying to find our law makers commencing to recognize the great importance of this preventive branch of medicine in connection with public education, and we most sincerely hope and trust that no time will be lost in making this bill a law, and that the good example thus set will will meet with a universal following.

The bill under consideration confers upon the Boards of Health of cities of the first and second classes the authority, and makes it their duty, to cause sanitary inspection of the schools in their cities. For this purpose the Health Boards are authorized to secure the services of some physician (not a member of the Board) who shall possess the requisite qualifications, to make all such sanitary inspections, and he shall be allowed the aid of one or more assistant physicians, if necessary. The principal and his assistants shall be remunerated for their labors by the payment of such a sum as the Board shall consider just and reasonable.

The principal physician is compelled to make thorough inspections of the sanitary conditions of all the public schools, investigate, any causes that may tend to impair the health of the pupils, and note any requisite hygienic improvements or modifications that may be required. All of which he shall report to the Board of Health quarterly, or oftener, as they may require.

Printed copies of all sanitary regulations approved by the Board must be furnished to the superindents and teachers of all schools, and it then becomes their duty to faithfully carry them out.

They must also cheerfully, voluntarily, and thoroughly make any suggestions and give all information in their power, that may seem necessary to further his investigations, to the inspecting physician; and furthermore, a penalty of not less than five nor more than fifty dollars fine shall be imposed upon any one who may neglect this provision.

Bravo! this is a big step in the right direction. Every one interested in human welfare and the prevention of disease will owe Mr. Rice a vote of thanks if he succeeds in making a law of his bill.

The West is a wonderfully great country. It is rapidly getting ahead of the East in everything. This new evidence of progress tends to show that even in that development which usually comes only with age and refinement, after the bustle of development of material resources has become settled, the West is ahead of the East. It now becomes the imperative duty of the legislatures of all our States to follow the wholesome example set them by Ohio.

There is one proposition which we desire to announce in this connection and to have remembered. The history of the world furnishes us abundant evidence of the fact that the very large majority of mankind pay no attention whatever to preventive medicine. When sick they rush off to the doctor, but they absolutely neglect the precautions necessary to prevent sickness. Well, such being the case, it becomes the bounden duty of those who have the power, to force these persons to take care of themselves, and to prevent, as far as possible, the inroads of disease, misery, and death.

We sincerely trust that before long we will have the great pleasure of chronicling the introduction of many such bills into our different legislatures. We shall await anxiously the fate of this one.—*Medical and Surgical Reporter.*

EXPERIMENTAL RESEARCHES ON THE EFFECTS OF TRAINING AND GYMNASTIC EXERCISE.—M. Rouhet has been experimenting in the laboratory of M. Marey on the general effect of training and gymnastic exercise.

As is known all muscular exercise accelerates the heart beats and the respiration, and, at the same time, the body heat is raised. Whilst the cardiac movements are increased in frequency, the peripheric vessels dilate, probably on account of the rise of temperature. This increased temperature causes then a dilatation of the vessels on the surface and as a result a dispersion of heat. The result of this is that the heat of the body remains about normal. The respiration becomes not only more rapid but deeper than before. As a consequence of this change in the breathing, we find the excretion of water by the lungs increased and that the body is somewhat cooled by the large quantity of air inspired with each breath. In consequence too of the deep inspirations, we find that the blood is forced by aspiration into the pulmonary veins. As a result of this the pulmonary circulation is facilitated and the blood flows more rapidly through the lung. Finally, the most important effect of these respiratory changes is that oxygen is supplied to the blood in greater quantity and more carbonic acid exhaled.

There is one remarkable fact, to which M. Marey called attention some time ago, and that is that the increase of the depth of the inspirations is not temporary that is present not only during the violent exercise and for a few moments after, but after a course of gymnastics or training, there is a permanent increase in the depth of the inspirations.—*Revue Scientifique*, Dec. 10, 1881.

LISTERINE.—F. J. Lutz, A.M., M.D., Surgeon to the Alexian Brothers' Hospital; Physician to the Misericordia Asylum for the Insane and Nervous, thus reports upon the new antiseptic: "I have used Listerine quite extensively since it was first offered to the profession, both in my hospital and private practice, and am much pleased with the combination. As an antiseptic, it is quite equal to carbolic acid, and, being devoid of that odor of the latter, which, to some, is so unpleasant, I have, in a number of cases, employed it where carbolic acid could not be used. In ozena and fetid ulcerations of the throat, especially *syphilitic*, I have found it a most satisfactory deodorizer, and in phagadenic ulceration of the genitals, due to venereal diseases, both in males and females, it is superior to anything I have used. Since I first gave it a trial I have used no other dressing for chronic ulcers of the lower extremities. It is destined to take the foremost rank among the local disinfectants."

THE PROGRESS OF MEDICINE.—The *Lancet* notices a recent article in the *Westminster Review*, commenting on the progress of medicine in recent years. Among other prominent points, it says: "Medicine though not strictly a science itself, yet rests upon several sciences, and is truly scientific in its processes and results. The writer clearly demonstrated that the claim of medicine to be considered truly scientific is not unfounded, and that its progress in recent times is but the first fruits of a harvest that promises to be gathered in not slowly, and the value of which to individuals and to the race will be incalculable. —*Med. and Surg. Reporter*.

THE dignity of State-Councillor has been conferred by the Emperor of Austria on Dr. Alexander Rollet, Professor of Physiology in the University of Gratz, in recognition of his long services in the cause of science.

Bibliography.

MAISCH'S "MANUAL OF ORGANIC MATERIA MEDICA."[1]

It may be that we cannot appreciate this book, we certainly fail to see its value to the physician. Had its title ended with the clause, "for the use of students," we could have seen its value. But there is only one feature to recommend it to either druggist or physician and that is the classification which brings into conjunction those drugs which resemble each other in physical and structural properties. This especially fits it for a text-book, and the author tells us that he first designed it for the use of students attending his own lectures. This is doubtless its field. It is very brief, but accurate, and used in connection with oral instruction would prove itself advantageous. But the physician and druggist want something more than this: for, with few exceptions, all that this book contains is to be found in the National Dispensatory. Even the illustrations are printed, with about an equal number of omissions and additions, from the cuts used in that work.

THE *North American Review* for March presents a striking array of articles, every one of which possesses the characteristic of contemporaneous interest. First we have a contribution from Senator George F. Edmunds, on "The Conduct of the Guiteau Trial." Ex-Minister Edward F. Noyes communicates the results of his observations of political affairs in France under the title, "The Progress of the French Republic." In "Trial by Jury," Judge Edward A. Thomas describes the social conditions under which our jury system had its origin, and notes its defects in view of the altered relations of modern life. Mr. John Fiske makes an able and ingenious analysis of that great intellectual movement, the Reformation, educing therefrom the "True Lesson of Protestantism." In "Law for the Indians," the Rev. William Justin Harsha endeavors to demonstrate that the one rational and effectual cure for our Indian troubles is to extend the jurisdiction of the civil and criminal courts over all the relations of the red man. Prof. A.B. Palmer writes on the Fallacies of Homeopathy." Finally, the Hon. Neal Dow contributes an article on the "Results of Probibitory Legislation," demonstrating the success of the efforts tosuppress the liquor traffic in Maine.

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[1] Being a guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of Students, Druggists, Pharmacists and Physicians. By John M Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. With many illustrations on Wood. Philadelphia: Henry C. Lea's Son & Co. 1882.

Correspondence.

VACCINATION ON THE FRONTIER.

Editors Lancet and Clinic:

I have read with much interest the articles appearing of late in the LANCET AND CLINIC, on vaccination, and have been somewhat surprised at the varied experience of different individuals particularly in the use of bovine virus. Perhaps my experience here on the frontier may be of some little interest. I will premise this article with the statement that it is impossible to obtain a conclusive average as regards successful and unsuccessful cases. Practice among Indians in no way resembles that among whites, and I have found it impossible to more than approximate results.

In January, when variola was increasing to such an alarming extent in the States and also showing itself in isolated instances in frontier towns about us, I obtained a quantity of bovine *crusts* from Boston. I used the scarifying vaccinator, introducing the virus at two points in the left arm of each individual vaccinated. Among Indians were 187 primary cases and 152 cases showing scars of previous vaccination. In the first class I succeeded in tracking 90 successful cases. In the second class, 15 successful and 42 unsuccessful cases. From my knowledge of these people I have good reason for believing the percentage of primary successful vaccinations to be much larger than would seem from the figures. The remaining cases never reported at all, being conclusive evidence to me that in the large majority of cases not reported the virus worked successfully, as the Indians were thoroughly aroused on the subject and each was anxious to have a sore arm. Of the 90 cases seen, the majority had more or less constitutional disturbance of varied character. Fever lasting from two to five days (in several instances even longer), headache, backache, sleeplessness and often racking pains in the limbs being most frequently complained of. Several were so sick that their lives were despaired of by their relatives, and my opinion asked if they had not better get the grave ready (Indian religion will not permit a dead body to remain in the lodge *one minute* after death, I have known them to place a dying man outside the door so as not to have him die in the lodge). The symptoms of course indicated really nothing so serious, but it seemed so to them, and I instance it in order to show how severe the symptoms were.

As to local effect of the bovine vaccination. There were a number of cases of erysipelas extending from below the elbow to the shoulder. The arm was as a rule immensely swollen, often indurated for two-thirds the circumference, red, tense and painful. Enlargement and irritation of axillary glands in nearly all cases, and two cases of axillary abscess. The resulting scabs were as a rule the size of a silver quarter, some as large as a silver dollar. Where these crusts were early removed, there was left a deep circular ulcer, some one-fourth of an inch deep, that filled slowly by granulation.

Of cases occurring among the whites here, I can give more definite deductions, as these cases were followed and proved extremely interesting. For the whites I used Higgins' quills of bovine virus with the following results: Primary cases, four, all successful; secondary vaccinations, fifteen; of these eight were successful, three partially so, and only four failures. Among the eight successful cases, all of whom had good scars of previous vaccination, performed, however, many years previous, were two cases of erysipelas, checked however in its incipiency. All suffered more or less with fever, loss of appetite, sleeplessness and extensive swelling of the arm accompanied by tender and enlarged axillary glands. All had large scabs with deep ulcers marking their seat when removed. The three partially successful cases had all these symptoms, only in less degree, of shorter duration, and with but partially formed scabs and little ulceration.

Of the primary cases, one had no constitutional disturbance of any kind, but the virus was eminently successful all the same. A second case developed high fever that assumed an intermittent character lasting four days, racking pains in the back and limbs, total loss of appetite with heavily furred tongue and a roseolar eruption lasting one day; arm much swollen, tense and indurated; resulting scabs large, leaving large cavities. The third case was the most remarkable of the series, a child two years old. For a week after the introduction of the virus nothing was noticeable excepting the persistent freshness of the scarified places of introduction. The virus then manifested its presence in the usual manner. The swelling however was rapid, the entire arm becoming red and angry with erysipelas. In a few days the wounds were surrounded by *hundreds* of points of variolous eruption having the umbilicated centre. The local irritation, immediately about the points of introduction of the virus, became daily greater, until finally gangrene supervened with sloughing (superficial) of tissue at these two points, each a space of an inch or more in diameter having the peculiar odor of gangrene. The resulting ulcers were filled with healthy granulations and healed rapidly until all closed except a space equal to the original scarification, which healed by scabbing. The treatment adopted was ferri iod., gtt. iv., every four hours. Six weeks after vaccination finds the little one about recovered.

This has been my experience this year with bovine virus. I employed bovine crusts here two years ago with the same general results. I have never had any difficulty in getting the virus to "take"; on the contrary, the percentage of "takes" is large, at least eighty-five per cent. It is seldom I ever find a case of failure among primary vaccinations, in point of fact I have found not a solitary case among the Indians. There may be such but I have been unable to trace them. As a rule I have found the virus to work very slowly. I always give a case a week at least before I will revaccinate, as I have found in very many cases that at least that much time must elapse before there are any manifestations of any kind. As a rule, again, I notice this virus to be much more severe both in the local irritation and also in constitutional disturbance than I ever knew the humanized virus to be. If my opinion as to preference between the two classes of virus, humanized and bovine, is asked, I most unhesitatingly should pronounce in favor of bovine virus. Further, I think the day has come when vaccination should most certainly be made compulsory, that, not only should bovine virus be made the legal tender as it were, but one step more be taken and humanized virus be outlawed. And "the man who opposes vaccination nowadays should be confined in an asylum as a lunatic or in jail as a malefactor.

Jas. L. Neave, M.D.,
Agency Physician, Fort Berthold, D.T.

AIDS TO LABOR.

Editors Lancet and Clinic:

I desire to call attention of the profession to a new method of help in labor. The old method of tying a sheet or rope to the foot of the bed has very many objectional features, is oftentimes quite impossible and far from practicable. In my experience it is difficult to keep the patient in the most desirable position, the body either being dragged to one side, or carried down to the foot of the bed. A new method that I have adopted for some time past has at all times and under all circumstances given excellent results. It is very simple and can be described in few words. Tear a strip of heavy unbleached muslin several inches wide and of sufficient length, say two or three yards, double the same until about four inches in width or even less, this the doctor can regulate according to his own taste, bring the ends together and tie firmly. Direct the patient to flex the limbs. Now pass the roller around the plantar surface of both feet; carry the same along the sides of the body, or trunk. Direct the patient when she has pains to grasp the roller on the right side with the right hand, that on the left with the opposite hand and at the same time that she makes traction to extend the legs as much as possible. With this the patient can be placed either on the back or on the left side. If on the side place a pillow between the knees, and instead of pulling with the arms at the sides carry them in front. Should she complain of the roller pressing too firmly on the feet, you can easily remedy this by adjusting a light pair of slippers as I have done on several occasions. No one, I think, will be disappointed with this method. Try it and report.

W. H. DeWitt,
Mt. Auburn, Cincinnati, O.

According to the *Boston Transcript* the latest translation of "*Arma virum que cano,*" is "of arms and the virus I sing."

Reports of Societies.

TOMPKINS COUNTY (N.Y.) MEDICAL SOCIETY.

Dr. E. R. Barney read the following essay before the Tompkins County Medical Society at its meeting at Ithaca, N.Y., January 18th, 1881, entitled:

Puerperal Malarial Fever.

I do not bring puerperal malarial fever before the society to-day because it is a new disease, although newly described. I do not believe in new diseases—"there is nothing new under the sun." Measles and smallpox had individually slain their thousands before they were recognized as distinct. Varicella and variola were for ages supposed to be the same until demonstrated as distinct by Heberden. Scarlet fever was not a new disease when Sydenham and his cotemporaries first showed that it was not measles. Typhoid and typhus fevers were old when Louis showed their separate individuality. In our own day we cannot say that chancroid is new because it is not syphilis, or caseous degeneration a new disease because it is not tuberculosis.

I might multiply illustrations to prove my position that there is nothing new. I have no patience with the idea so universal that physicians are continually meeting new diseases. We are not meeting the new, but better understanding the old. The disease under consideration may not have the same distinct individuality that the various exanthemata or typhus and typhoid fevers have; yet it seems to me to have an individual character sufficiently marked to entitle it to a distinguishing name, and this one given it first by Dr. Fordyce Barker in 1880 seems well chosen.

It is frequently met with, not only here in our malarial districts but elsewhere in places where ague is an unknown quantity—where it is, as in fact it may be here, too often overlooked or misunderstood, to the great detriment of its victim. It is liable to be mistaken for puerperal fever, metro-peritonitis, peritonitis pelvica or septicæmia perhaps at the cost of the patient's life. It may also go on *pari pasu* with any one of these diseases greatly increasing the dangers.

Dr. Barker describes the disease, as he has met it in seventeen cases, as commencing with a chill more or less pronounced, a temperature one or two degrees higher than is met with in any other puerperal disease, rapid pulse and great prostration, greater than found in any other puerperal disease. The next day there is a marked remission of all symptoms followed in one, two or three days by a return of the explosion in less degree except in typical cases.

Dr. Barker was disposed to believe that in the majority of cases the patient, three or four days after the explosion, finds herself suffering from a general sense of malaise, more or less pain in the back, head, and bones, thirst, loss of appetite, insomnia; and when the disease was developed the chills were less severe, the pulse less rapid, the temperature not so high, and the remissions less marked; and he was of the opinion that in such cases the disease was more persistent and responded less readily to treatment.

In puerperal malarial fever a fall of temperature three or four degrees was always attended with a corresponding decline of other symptoms, which is not the fact in septicæmia, and the latter is rarely accompanied with pain in the head, back and limbs.

He thought a competent and intelligent observer would not mistake it for pyæmia even though it was developed six or eight days after confinement. Puerperal fever usually appeared between the first and third days after delivery, and rarely after the fifth day, while they were not recurrent, nor was there marked remission of the symptoms. Malarial fever may be developed during the progress of any of the local phlegmasia or may be complicated by them.

In five cases secondary hemorrhage occurred after the twelfth day, apparently as the result of malarial fever. In one case three days after this hemorrhage, purpura was developed and there was some oozing of blood from the nasal and buccal mucous membranes. In four of the cases where he was called in consultation the patient was supposed to have puerperal mania. Dr. Barker used large doses of quinine in the treatment, but had found Warburg's tincture more effective and speedy. He noticed a remarkable tolerance of iron in these cases. In one case he gave eighty grains hypodermically in twenty-four hours without any cinchonism.

My own observation of these cases has varied somewhat from Dr. Barker's. I have seen no cases of secondary hemorrhage that seemed due to malaria, while I have seen several where the symptoms pointed strongly to either metroperitonitis, peritonitis or septicæmia. The first case I recollect was in February, 1873. In this case, while everything seemed to progress favorably up to the third day, suddenly, on that day, the patient experienced a severe chill. I found a temperature of 104°, pulse 120, anxious face, knees drawn up, pain in the head and back, rapid respiration, and the most excruciating abdominal pain and tenderness, so that she could not even bear the weight of the bed clothes. I found also that the lochia, which had been rather offensive but not markedly so, was supervened. I put on hot fomentations, gave an enemata and a full dose of morphia and waited. In four or five hours she commenced to sweat, the pulse slowed down until it reached 90, temperature came down to 100°, and the pain subsided. This, bear in mind, in a locality where no trace of ague had ever been known. I put her on ten grain doses of quin. every two hours until five were taken and then continued the same dose every four hours until symptoms of cinchonism were produced, as it was in about thirty hours. Convalescence was then uninterrupted.

I had another case in 1876, also in a region free from malaria, after a fifth month miscarraige about five days elapsed without any untoward symptoms, when the patient was taken with a chill and I found her in high fever, temperature 103°, moist skin, rapid and small pulse, profuse and offensive lochia, and deep tenderness over the uterus, some headache and great prostration. I supposed the symptoms due to sepsis, and felt confirmed in this when I succeeded in removing a considerable mass of decomposing blood clots from the womb. I afterwards swabbed the uterus with cotton probes and left within it a pledget of cotton soaked in a five per cent solution of carbolic acid to be removed after the lapse of two or three hours. In the evening the patient felt more comfortable, the pulse was slower and the temperature lower and I felt encouraged; but alas! in the morning she was bad again, without, however, any recurrence of chill. In the evening there was improvement, and so it went on for several days until the patient was in a truly desperate condition and I was looking at each visit for crape on the door. At this time I resolved to try the effect of large doses of quinine (I had been giving small doses with sulphite of soda and a free allowance of stimulants). This I did, it is true, without any definite idea of malaria, for, bear in mind, this was in a region where no malaria was supposed to exist. I gave her ten grains (that was a large dose there) every three hours and was gratified to see within a day marked improvement. I kept up these doses for three days without cinchonism, and then diminished the dose as my patient was convalescing.

Since my residence in Ithaca I have seen four well marked cases; two were typical cases, as described by Dr. Barker, without any of the subjective symptoms of any other puerperal disease; one other simulated cellulitis in left broad ligament, without of course the tumor; there was pain and tenderness and engorgement coming on with the fever exacerbations, declining also with the decline of temperature. In another case there was general abdominal tenderness, with tympanites and vomiting, only marked however during the high fever, which remitted as in all other cases. This case resembled my first except that it was protracted. The disease did not yield, as in the first, after the initiatory explosion. Quinine produced a rapid amelioriation of the symptoms but did not control the disease until nearly a week had elapsed. Again in about a week there was a recurrence of all the symptoms in nearly their original intensity, but yielded within three days to treatment; again, after a lapse of nine days, without fever and after apparently restored health, she had a child and during the fever that followed she suddenly complained of pain in the left side, a difficulty of breathing, She had mitral stenosis, dating, I suppose, from an attack of inflammatory rheumatism seven years before and sudden incompetency of the heart was undoubtedly the cause of death.

To resume, the disease is characterized by its sudden invasion at any period of the lying-in, most frequently, I have seen it, between the third and fifth days. There are remissions in its course during which the pulse reduces in frequency to correspond with the improvement in other symptoms. This *behavior* of the *pulse* I consider the diagnostic mark of this disease in contrast with the other puerperal diseases. There is usually great prostration from the very inception of the disease, often great mental depression and anxiety, in marked contrast with hopeful aspect of the woman dying with septicæmia.

The doses of quinine ordinarily sufficient to control intermittent fever have little or no influence over the course of this fever, but often require to be quadrupled. Moreover, there has been in all my cases a wonderful tolerance of quinine, in some cases I have found it almost impossible to induce cinchonism.

Were we to consider the etiology of puerperal malarial fever it would lead us to a full and and general consideration of the puerperal state and to the etiology of malaria with all its speculations, too wide a range for the scope of this paper or the forbearance of this society. I forbear and will only add that parturition seems to leave the system in a condition peculiarly favorable for malarial poison to affect in its more pernicious forms.

DISCUSSION.

The paper was discussed by Drs. Demand, Beach, Gregory, Peck, Beckwith, Brown and Windom at that meeting, and at the following meeting, February 3d, Dr. Sackett presented the following paper:

The paper presented by Dr. Barney is an important one because it suggests many important queries. My own discussions will perhaps be unimportant because I have never yet seen a case of puerperal fever and I will simply give my opinion upon some points brought out in the discussion in as brief a manner as possible.

1st. The term malarial should not be applied to any case of fever where there was no bad air or where the patient had not previously been exposed to its influence to some extent.

It is true, however, that there are few localities so far as I know that have not at one time had a few cases of intermittent fever, and we can scarcely say of any place at any time that we are sure that no malaria at all exists, and it is also true that a person may be exposed to malaria and not experience its effect until after some months, perhaps when there is the operation of some malign influence superadded, such for instance as the debilitating effects of labor.

2d. In describing a case properly named puerperal, the term malarial should not be superadded unless there has been more than one exacerbation and remission of the disease—that is during the first rigors—fever, or even sweating, we can hardly be sure that the case is malarial at all.

3d. It does not follow however that a large dose of quinine should not be given near the time of the inception of the disease, it might do good even in a case that is rather of the ephemeral form. I would, however, suggest that opium is the only remedy that we could rely upon where there was indications of peritonitis as in the cases described or some of them.

4th. While quinine might be used previously, it is certainly the very best remedy as soon as the paroxysm is observed to recur periodically, and I do not doubt that very large doses are serviceable, as I have myself observed that lying-in women are always tolerant of quinine in whatever manner I have seen it administered.

5th. I may say something of what I have noticed in regard to agues attacking a woman during or immediately subsequent to the puerperal state. Pregnant women certainly do not possess any exemption from the different forms of intermittent fever, though I have not found them particularly subject to agues either before or after confinement. I have seen very many cases of ephemeral fever coming on about the third or fourth day of the confinement, a fever preceded by a chill and followed after a few hours by sweating. It has not been my lot, however, often to see the fever continued for more than one day even when quinine was not used. But quinine is a medicine that may very properly be given at such times. Before confinement I give it sparingly, during labor I give good doses, not only to counteract malaria, but also to increase the efficacy of uterine pains, and subsequently as a tonic and to diffuse the circulation and counteract congestion.

As a practical result of the reading of the paper and the discussion, I shall probably give quinine during the progress of parturition more than I have heretofore done.

HIGHLAND COUNTY MEDICAL SOCIETY.

F. M. THOMAS, M.D., *President.* B. D. GRANGER, M.D., *Secretary.*

The Highland County Medical Society held its third quarterly meeting at the Mayor's Office in Hillsboro, Thursday, January 12th, 1882. Fourteen members present. The minutes of the previous meeting were read and approved.

The regular essayists not being present, Dr. R. T. Trimble, of New Vienna, called the attention of the Society to a case of typhoid fever in which vaccination seemed to produce a controlling influence over the poison, causing the disease to run a milder and shorter course.

This called out quite a spirited discussion in which several of the members participated. Nothing conclusive beyond its prophylactic properties in the prevention of variola was arrived at.

The subject of vaccination was then taken up. Some of the most important points considered in connection with that subject were the comparative efficacy of the two varieties of virus, the animal and the humanized, the best mode of introduction, its period of incubation as compared with that of variola, causes and treatment of unfavorable sequelæ and the probable duration of its protecting power.

After partaking of a sumptuous repast, ordered by the city members, the Society again convened at 2 o'clock p.m., after which Dr. J. M. Miller, of New Boston, one of the regular essayists, read quite an elaborate paper on the pathology and treatment of whooping cough, in which the writer claimed it to be a specific disease of the respiratory organs of an inflammatory nature and for its treatment he relied principally upon ipecacuanha, squills and tartrate of antimony in the primary stage, hyoscyamus to relieve spasms and quinia to support the system. He thought opium should not be given owing to its tendency to arrest the bronchial secretions.

A vote of thanks was tendered the Doctor for his paper.

Drs. J. K. McNally, F. M. Granger and H. Whistler were appointed essayists for the next meeting, which will be held in Hillsboro, Thursday, April 13, 1882.

In the evening Dr. R. T. Trimble delivered his popular lecture entitled "The Hand," to a respectable audience, with good effect.

Selections.

MEDICINE.

The Treatment of Psoriasis by Naphthol-Ointment.—A short time since Professor Kaposi, of Vienna advocated the advantages of a new remedy in the treatment of skin diseases, namely, the so-called betanaphthol. To quote from an abstract from his paper published in the *Medical Times and Gazette* of June 4th, he states that, "in psoriasis a ten per cent. ointment produces the same effect as a chrysarobin (chrysophanic acid) ointment without the discoloration caused by this." Desirous of testing this assertion, I procured some beta-naphthol, and began using it in an extensively spread and well marked case of psoriasis occuring in a boy aged 12, who had been affected with the disease continuously for eleven months.

On September 22d, I commenced with the use of an ointment of about the strength recommended by Dr. Kaposi, namely a 12 per cent ointment, but finding that by October 1st. it had by no means produced the effect that a 12 per cent chrysophanic acid ointment would have by that time produced, I doubled the strength of the ointment over the tougher parts of the skin, using a 25 per cent ointment to his back, October 7th, he had scarcely improved at all. I therefore now employed to his back a 35 per cent ointment, and finding this tolerated, I, on October 8th, used a 50 per cent ointment; the 10 per cent. ointment being continued as before to the other parts. On October 15th, I found that on some patches, or rather on some parts of some of the patches, the ointment had produced vesication; the other patches, exhibited a brighter red color than is natural to the disease, but were otherwise unchanged. The boy was extremely sore over the various places where the ointment had blistered him. I therefore stopped the use of naphthol-ointment, and ordered a weak acetate of lead ointment.

On October 22nd the blisters had healed, and where the blisters had been (but only there) the disease had disappeared; in some places absolutely so, in others nearly so. But as to the eruption generally it was not perceptibly better than before treatment was commenced.' Now this was after a three weeks' course of beta-naphthol ointment, and a good course of it. The boy was under my care as a hospital in-patient, and I can speak securely as to the thorough application of the ointment. On October 22nd, all irritation from the use of the naphthol having subsided, I now made use of a 15 per cent chrysophanic acid ointment. Within a week after this large proportion of the eruption had disappeared; within another week the greater portion of the eruption had vanished, leaving only two exceptionally obstinate patches on the hips; within a further fortnight these also had completely gone away, leaving him absolutely free from eruption.

I am therefore unable to support the observations of the able Viennese professor. Not only do I find that beta-naphthol ointment is not so efficacious as chrysophanic acid in psoriasis, but it is also a more inconvenient remedy, regarding its incidental effects. Used of a moderate strength, it appears to me to exercise no appreciable effect on psoriasis; and when employed of such strength as to achieve some result it only in a very patchy and unsatisfactory manner. It is true that it does not stain the linen, but then it does worse, it blisters the skin.—Balmanno Squire in *British Medical Journal.*

Note on Cutaneous Pruritus.—Cutaneous Pruritus may be divided into *general* and *local*, the former being one of the most important of the subjective symptoms accompanying diseases of the skin. The cause may be either due to some condition of the patient's constitution, or the pruritus may be located in the skin itself. However, I intend to write more particularly of Pruritus when unassociated with any affection of the skin; if the latter be present it is generally secondary and due to scratching. As far as my observation goes, general itching of the cutaneous covering is due as a rule to deranged action of the liver, connected with the abuse and excessive use of alcohol, beer, etc., or from jaundice. Temporary derangement of the liver or uterus is a common cause of itching, and for which a "blue pill" and seidlitz powder are the popular remeies. The great point in the treatment of such cases is to give a hepatic stimulant; and I take this opportunity of noticing a remedy which in this part of the world enjoys a reputation, and that well earned, in the treatment of jaundice and other hepatic affections. I refer to the common "Rag Weed" an excellent preparation of which is made by Messrs. Grattan and Co., Belfast, and called by them the *Succus Senecionis Jacobæ*. The dose is from one teaspoonful to a couple of teaspoonfuls, either with or without a teaspoonful of sulphur, early in the morning. As for local treatment, the Turkish bath and sponging the body with vinegar or borax is useful, and relieves the attack for several hours.

Erasmus Wilson states that cutaneous pruritus accompanies "pregnancy, ascarides, disease of the liver accompanied with arrest of function and jaundice....The more common of the remote predisposing causes are deranged digestion, gouty diathesis, and abuse of alcoholic drinks."

The local varieties of Pruritus that are usually met with in practice are, first, Pruritus Ani. This form of the complaint, so troublesome and annoying to the patient, is due in the first instance, and that as a general rule, to derangement of the portal circulation, frequently associated with piles. The itching causes the patient to scratch, and thus occasion an eczema of the region of the anus. I believe that I have observed in some instances a fungoid growth around the anus, and the itching in such cases I have always cured by sulphurous acid, However, when usually seen the disease is chronic, and more or less eczematous, in which cases the local use of tar and internally podophyllin or "Rag Weed, " and plenty of "curried dishes," or, if objected to, confection of black pepper, usually cures.

Pruritus Vulvæ, so frequently due to pregnancy, need only be mentioned. Leucorrhœa is another cause, as also ascarides traveling from rectum to vulva, met with chiefly in children, but I have observed this complaint in several cases of diabetes, in which an apthous growth due to the presence of a fungus "*oidium albicans*," similar to the disease occurring in the mouth known as " thrush " is to be observed When I first mentioned this in my work on Skin Diseases in 1875, the reviewers took me to task very severely. However, recent observers have noted the same, especially in the United States. In these cases sulphurous acid applied locally, injections of very hot water, and careful diet and lactic acid internally, as recommended by Foster of Birmingham, give at least temporary relief.

Pruritus Scroti. This, as far as my experience goes, is generally due to stricture of the urethra. I have one case at present under treatment in which iodoform suppositories, are doing good service in addition to the use of a catheter. Gonorrhœa is generally at the bottom of the complaint.

In conclusion, Pruritus, either general or local, is merely a symptom of a Constitutional Condition, as derangement of the liver, or of a local ailment.—By H. S. Purdon, M. D., in *The Practitioner.*

SYPHILIS OF THE HEART.—Mayer states that the symptoms of syphilitic affection of the heart are like those of the weakened heart of Stokes, or of chronic diffuse myocarditis. He describes the case of a patient who exhibited the symptoms of cardiac insufficiency without evident valvular disease. He had had the syphilis eight or nine years before, periostitis was present in the leg, and the mouth was also effected. Treatment by murcurial inunction and iodide of potassium effected a complete cure.—Pamphlet, and *Praktische Arzt.*, No. 4.

TARTAR EMETIC IN CHOREA.—M. Malherbe (of Nantes) has published in the *Journal de Medicine de l'Ouest* a memoir tending to show that notwithstanding the satisfactory results obtained by certain new remedies in chorea, tartar emetic ought to hold an important place in the treatment of this disease; yet, and here is a serious point in the treatment. Chorea does not requi the employment of depressing doses according t the method of Laennec and Gilette; vomiti doses are perfectly sufficient; thus administere tartar emetic produces its effects particularly in case where the spasm reaches a high degree of i tensity, and if it does not always cure definitel it prevents at least for a certain time, the dange M. Malherbe advises the simultaneous employ ment of large doses of morphine either by th mouth or hypodermic injections. There shall b given, for instance, 10 or 15 centigrammes of th emetic in the morning, and in the evening two t four spoonfuls of a syrup of morphine by th mouth, or one, two and even three centigramme of this substance by injection. This medicatio was employed in the case of a young woman 2 years of age choreic for two years, and wh entered the hospital with an excessive recurenc of all the symptoms accompanied by hysterica manifestations. A vomitive potion of 15 centigramms of tartar emetic was at once to be taken every five minutes, until vomiting was induced. An injection of one centigramme of hydrochlorate of morphine, and at the same time 4 grammes of the bromide of potash. The emeses were abundant. The following day the symptoms were much diminished. The same treatment was repeated two days after, then at variable intervals, and always the same amelioration was produced. The patient left the hospital not cured, for her chorea seemed to have passed into a chronic condition, but much bettered. M. Malherbe cites this case because it is a strong evidence of the powerful action of the emetic on choreic spasms, and that so much the more as it is not necessary to administer the medicine for several days in succession.

M. Malherbe also cites the case of a young girl in whom, notwithstanding the means employed, the muscular disorder had arrived at such a point of violence, that he thought of having a matress lined box made to prevent patient from having external shocks. Two vomitive doses of tartar emetic given at an interval of 48 hours aided by large doses of morphine had seemed to be without effect, when a third emetic produced considerable quiet, and at the end of three days every choreic symptom had disappeared.—*Journal de Medicine et de Chirurgei*, Paris, Nov. 1881.

BRESGEN ON CHRONIC CATARRH OF THE NASAL FOSSÆ AND PHARYNX.—Dr. Bresgen (*Annales des Maladies du Larynx, etc.*,) enumerates the causes of this affection as frequent colds, enlarged tonsils, elongated uvula, abuse of tobacco, snuff, and the vitiated atmosphere of rooms. Syphilis, he says, is not a cause, as it only effects the nose when it is previously the seat of catarrh. Among the symptoms he insists on the importance of bleeding and redness of the nose as certain signs of commencing chronic rhinitis. His treatment is the insufflation of powdered nitrate of silver and starch (from 0.5 to 10 per cent.), and in obstinate cases he applies the galvano cautery. He seldom resorts to injections, except in cases attended with much fetor, and condemns the use of the plug recommended by Gottstein. To facilitate the inspection of the posterior nares he inserts the index finger of the left hand—preferring it to the hook of Voltolini—to draw the palate forward. To overcome the hyperesthesia of the palate, fauces, etc. frequently present. Dr. Bresgen paints the parts with iodide of glycerin (iodide 0.5 to .1, iodide of potassium 2.5 to 5, glycerin 25), and affirms that in three applications a sufficient degree of insensibility is obtained. During these applications the patient is forbidden the use of tobacco, alcoholic drinks, and strongly-spiced food.—*London Medical Record.*

HOW LARGE A DOSE OF ALCOHOL SHOULD BE FOUND IN THE BLOOD TO PRODUCE DEATH.—In answer to this M. Grihant says, "I have injected into the stomach of a dog weighing 10.`K. 4.93 grs. of alcohol at 21°; after eight injections made every half hour, the dog died. The blood taken from the inferior vena cava and introduced into my distilling apparatus, gave a colorless liquid specific gravity of which was 0,898. In calculating the volume of absolute alcohol contained in the blood, I found it $\frac{1}{100}$. Two other experiences have given $\frac{1}{110}$ and $\frac{1}{100}$; it can therefore be affirmed the toxic dose of alcohol in the blood is in the neighborhood of $\frac{1}{100}$. In a former experiment, I obtained, having injected alcohol into the blood of a dog so as to keep him in a state of intoxication without death ensuing, $\frac{1}{157}$ parts of alcohol; that is to say an amount which was one half the toxic dose.

There is a certain analogy between these results and those which have been obtained by the learned President de la Societe de Biologie," M. P. Bert, who has shown, in a recent work, that the limits of a tracable zone in the administration of anesthetics are such that the amount of vapor in the air inspired by animals becomes toxic when double that which produces anesthesia.—*Tribune Medicale*, Jan. 8th, 1882.

DR. SCHÆFFER ON OZENA.—Ozena, according to Prof. Max Schæffer, is nearly always the result of scrofula or syphilis. It may be due, however, though rarely, to a primary affection of the bones or cartilage. He distinguishes two stages of the affection, a hypertrophic and an atrophic. In the former the secretion is abundant, thick, and creamy, and forms thick crusts, especially in the naso-pharynx. The crusts when detached give rise to hemorrhages, and leave behind them erosions, which are liable to run on to superficial or deep ulcerations. The mucus membrane is livid, thickened, and pits on presure. In the atrophic stage the secretion is less abundant, more fluid and viscid, and forms fine crusts, its capacity being due to the admixture of epithelium. The mucus membrane is pale thin, and very adherent to the bones, and undergoes fibroid degeneration, while the glands are destroyed. The spongy bones are atrophied, and the meatus on each side is considerably enlarged. When due to hereditary syphilis the ozena is frequently developed during the first few meeks of life, the hypertrophic stage in these cases lasting eight to ten years. The duration is the same when scrofula is the cause. In acquired syphilis the stage lasts from six months to a year. Here the affection begins in the periostium and cartilage of the bone. The author recommends injections of chlorate of potash to be used twice a day, and in the intervals he introduces, in the atrophic stages, plugs of cotton wool. He condemns the use of carbolic acid, and says that in cases cured by its use smell is permanently lost. Constitutionally, he employs the usual remedies.—*London Medical Record.*

SUBCUTANEOUS INJECTION OF IRON.—In some cases where iron is indicated the condition of the stomach is such that its internal administration is impossible. In such cases the hypodermic use of this agent is useful. The difficulty has been to find a preparation of iron suitable for this method of administration.

Dr. Neuss publishes in the *Zeitschrift f. Klin. Med.*, iii., 1, 1881, a series of experiments undertaken by him to discover if possible a good preparation of iron for hypodermic use. His experiments were made on rabbits and men, and have led him to the conclusion that the best ferruginous preparation for this form of administration is the pyrosulphate of iron, with citrate of soda, which contains 26·6 per cent of iron and is soluble in 6 parts of water.

The next in order of merit is the albuminate of iron and, finally, the pyrophosphate of iron with citrate of ammonia, which sometimes gave rise to abscesses.

LOCAL TREATMENT OF DIPTHERIA.—Seligmüller thinks the good effect of chlorate of potash in cases of diptheria is due to the fact that it causes an increased secretion from the follicles of the pharnynx and as a consequence the membrane is lifted from its bed.

M. Vidal holds that tartaric acid has the property of disolving the false membrane. He has used for a long time the following local application with the most excellent results:

℞. Acidi Tartaric, ʒ ijss.
Aqua Menth. Pip. ʒ vi.
M. Aqua, ʒ iv.

After a few applications of the foregoing, the false membrane becomes pulpy and gelatinous. M. Vidal while speaking very highly of tartaric acid as a local application does not neglect general treatment which he thinks of the highest importance.—*Le Med. Practicine*, Jan. 28th, 1882.

TREATMENT OF ACNEIFORM RASH DUE TO BROMIDE OF POTASSIUM, WHILE CONTINUING THE REMEDY.—Duckworth reports the case of a woman, 20 years old, subject to epileptic attacks, and in whom sixty grains of bromide of potassium caused the appearance of a confluent acne which was very painful. The treatment consisted of the local application of the lotio sulphuris cum camphora; viz., ℞ Sulph. precip. ʒii, Spts. camphoræ ʒi, Aquæ calcis ℥ii, m. et ft. lot. Gruel was used instead of soap. There was improvement in a week, and in two weeks the hard and sluggish papules had disappeared; the bromide was taken as usual, with no return of the eruption. Mention is made of the fact of arsenic given together with the bromide controlling the eruption produced by the latter drug. Sangster, however, has found that a *sudden* increase in the dose of bromide has caused a rash, even though arsenic was being taken at the same time. —*Buffalo Medical and Surgical Journal.*

ATROPIN IN MENHORRHAGIA AND HÆMOPTYSIS.—Dr. Tacke considers atropine a much more certain remedy in menorrhagia and hæmoptysis than ergot. He was led to apply it in these conditions by injecting it subcutaneously in a woman suffering from eczema, and who had at the same time a profuse menstrual flow. He injected $\frac{1}{200}$ of a grain twice daily for two days. The eczema was greatly benefited, and the menstrual flow was much reduced. He recommends a solution of sulphate of atropine 1 to 1,000 of water Five minims to be injected two or three times a day subcutaneously.—*Berlin Wochenschr.* 1881, No. 6.

INDICATIONS FOR THE ADMINISTRATION OF DIGITALIS.—In the *Deutsche med Zeitschrift*, No. 23, 1881, Prof. Leyden states his views in regard to the use of digitalis. He thinks the drug is of advantage in acute febrile diseases, in hæmoptysis and other hemorrhages, and of course in cardiac diseases. As an antipyretic, however, it is not a very safe agent, on account of the danger of sudden collapse. As regards its employment in heart disease, he thinks it difficult to lay down any generally applicable rules. Every case should be judged on its own individual merits. In mitral and aortic affections there is a special indication for its use when there is diminished arterial tension, with dyspnœa and scanty secretion of urine. He finds it the best in such cases to give only small doses, one-quarter or one-fifth of a grain daily. If these doses fail, it remains an open question whether or not it be advisable to give more. In hypertrophy and dilatation of the left ventricle, with co-existing pulmonary disturbance, digitalis is a highly uncertain remedy. As a diuretic its action is feeble, succeeding only when the action of the left ventricle is feeble. Leyden prefers the tincture and infusion of digitalis to other preparations of the drug. The best substitute for digitalis he thinks is squills. Both drugs may be given in combination, or, better still, the exhibition of digitalis may be followed by that of squills.—*Med. Record.*

FILARIA SANGUINIS HOMINIS AND CHYLOUS URINE.—At a recent meeting of the Pathological Society of London, Dr. Stephen Mackenzie showed specimens of the human filaria in the freshly drawn blood, and at the same time specimens of the same parasite from the mosquito, which was found by Manson, of Amoy, to be the "intermediate host." The patient, who was present was born in India of European parents. About a month before reaching England he had incontinence of urine, which later became milky, and still later contained blood. The urine passed at night contained more blood and more filariæ. Sometimes they were only found at night, appearing at first about 9 p.m., and being most numerous at midnight. At 9 a.m. some could be found. By inverting the habits of the patient, making him eat and work at night and sleep in the day, the filariæ were made to alter their habits, and only appeared during the day. These hæmatozoa measured from $\frac{1}{75}$ to $\frac{1}{120}$ inch in length, and $\frac{1}{1000}$ to $\frac{1}{3000}$ inch in breadth. It is said by Dr. Manson that the mosquito forces his proboscis into the lumen of the capillary, usually making his visit when the prey are in greatest numbers. The filariæ coil their tails about the proboscis, and are withdrawn in great numbers. Dr. Vandyke Carter was not disposed to lay very great stress upon the periodicity of the parasite. At some seasons he would be absent, and at others would appear in the blood. The parent worm, an animal of considerable size, perhaps three inches in length, was lodged somewhere in the lymphatic system—often in the urinary tract—and at intervals the young were discharged into the circulation. Often might filariæ exist in the blood, without producing any symptoms whatever.—*British Medical Journal.*

THE COCOANUT AS A REMEDY FOR TAPEWORM. In the Antilles the cocoanut is the popular remedy for tapeworm, and its efficacy has been conclusively demonstrated by medical men in Senegal. A cocoanut is opened and the almond extracted and scraped. Three hours after its administration a dose of castor oil is given. The worm is expelled in two hours afterward. In nine cases in which this remedy was tried by a surgeon in Senegal the result was complete.—*Med. Press and Circular.*

HYPODERMICS OF ETHER IN ASIATIC CHOLERA. —Dr. Dupuy (Progres Medical,) claims that in the cold stage of Asiatic cholera hypodermic injections of sulphuric ether have a very marked affect. If the temperature be already low the ether injections raise it as high as it has been previously lowered. Dupuy advises the use of the same procedure in the treatment of collapse arising from other causes than Asiatic cholera. He has found this procedure to answer well in asthmatic paroxysms.—*Med. Times.*

SURGERY.

ON TAPPING THE BLADDER FROM THE PERINEUM THROUGH THE HYPERTROPHIED PROSTATE— Tapping the bladder is an operation which is not often necessary; I believe it may occasionally be resorted to even when a catheter can be passed. Assuming it to be required, how is it to be done?

Tapping with the aspirator-needle above the pubes is a safe proceeding, and for affording temporary relief is to be recommended. A Surgeon who finds himself in difficulties with a distended bladder, a large prostate, and false passages, is likely to do less harm with the needle than with the catheter, and is sure to give relief. Taking off the tension by withdrawing the urine generally permits the instrument to pass on the next trial. This method, however, can only be used for temporary purposes.

Tapping the bladder above the pubes with a trocar for the purpose of establishing a more or less permanent drain is very much like opening an abscess at its least dependent spot. Urine canula against gravity, and the products of inflammation of the bladder, usually present in some degree, remain behind the pouch undischarged. Tapping through the rectum requires the retention of the canula in the intestine, and is thus an obstacle to defecation. Forcing the end of the catheter through the enlarged prostate is an unsurgical proceeding not to be entertained. Tapping the membranous urethra leaves us in the position of having the obstructing prostate behind the opening. There is a point in the wall of the bladder unconnected with peritoneum through which a trocar and canula may safely be passed. I refer to the prostate gland, which in old men, where paracentesis is more frequently required, often affords a considerable area for the operation. I will illustrate this method by the following case, only premising that over twelve months ago I recognized its propriety, and tested it on the dead subject. I then had the instrument made for the purpose; but though having considerable opportunity for dealing with retention of urine under all circumstances it was not till quite recently that a case in point presented itself. I mention this as explaining how I came to be prepared instrumentally for doing that which I will briefly describe:

N. D.., aged eighty-four, was admitted to the Liverpool Royal Infirmary at 2. a. m. on 4th of November, 1881. My house-surgeon, Mr. Laimbeer, found him bleeding from the attempted catheterism with a large postate, and a distended bladder. Recognizing the urgency of the case, and finding catheterism impracticable, he emptied the bladder with the aspirator above the pubes. I saw the patient a few hours afterward, and found that he had not passed urine since, and that no catheter could be introduced. His tongue was brown, and he much exhausted. Later on I again visited him, when the bladder had become fully distended. I then had him placed under ether, and succeeded in passing a gum-elastic prostatic catheter. Beyond demonstrating that the difficulty had been overcome I declined letting any more urine be drawn off for a reason arising out of recognizing that either the catheter must be retained or re-introduced when required; neither of which proceedings I was disposed to recommend.

Retaining a catheter in the bladder of an old man somewhat childish, and disposed to remove any appliance if not closely watched, is not easy, and when it is done it often ends with death from cystitis, pyelitis, and exhaustion. This was a case where, in my judgment, it was wisest to establish a permanent drain; and to do this in the manner on which I had determined required a tense and not a flaccid bladder. Taking a trocar which had been made for the purpose, with a silver canula I introduced it in the median line of the perineum, three quarters of an inch in front of the anus, and pushed it steadily through the prostate into the bladder, at same time retaining my left index finger in the rectum for a guide. On withdrawing the trocar a large quantity of ammoniacal urine escaped. The canula, being provided with a shield, was secured in its place by tapes much in the same way as a tracheotomy-tube. A piece of india-rubber tubing was attached to the portion of canula which projected beyond the shield, and conveyed the urine into a vessel placed at the side of the bed. The urine continued to dribble through this tubing. The patient was at once made comfortable by this arrangement, and in forty-eight hours he was up, sitting in an easy-chair—an important matter with old persons. To permit of this the rubber tubing is shortened during the day-time, the end of it being tucked through a light abdominal belt, where it is compressed by a small pair of bulldog forceps, which are removed when the patient desires to pass urine. He is quite as well as most men of eighty-four years of age are. He gets up daily, takes his food, and sleeps comfortably, either on his back or his side, without any narcotic, and is quite free from any urinary inconvenience other than wearing his tube. During the night his sleep is not broken by calls to micturate or pass catheters, as his urine runs off by the tubing as it is excreted; while in the day-time when he is up and about his act of micturation practically resolves itself into something equivalent to the turning of a tap. His urine, which had been fetid and ammoniacal, is now nearly normal, the bladder being readily washed out by applying a syringe to the canula twice a day. On two or three occasions the canula has accidentally slipped out while the tapes were being changed, but has been readily replaced by the nurse. The somewhat enthusiastic manner in which the patient compares his present with his past condition can not be passed by entirely unnoticed.

The operation was devised much on the same lines I endeavor to take in commencing my lithotomy incision—namely, the selecting of a point in the perineum which endangers no vessel of importance. My object in planning the operation was to obtain what I can best describe as a short low-level urethra, adapted to the altered relations of the bladder to the prostate when the latter becomes enlarged, for the purpose of securing the most complete drainage. I should add that since the tapping, as far as we are aware, the patient has only passed a few drops of urine by the urethra—Reginald Harrison, F. R. C. S., in the *Brit. Med. Jour.*

NEW METHOD OF DETECTING SMALL STONES IN THE BLADDER.—Dr. S. Cuthbertson Duncan has used for about three years the following method of detecting stone when small or in fragments. He takes a nickle-plated sound, such as is commonly used for that purpose, and holds it over the flame of an ordinary lamp or candle until the point is covered with a thin black film. After it has become quite cool, it is dipped in a solution of collodion and allowed to dry. He then oils it with castor-oil, and introduces it a short distance in the urethra and withdraws it, to see if it be injured. If not, he proceeds to explore the floor of the bladder with a sweeping lateral movement. If there be a stone or any fragments left after lithotrity, its black covering will be removed in patches, and the bright metal will show through. The author thinks this more delicate than Mr. Napier's indicator, the point of which is made of lead, blackened by chemical agents; and this very method does not impair the conducting power of the sound in any degree. A short beaked solid steel sound is preferred, with a round handle, which has a flat disk about two inches from the end, at right angles to the curve of the beak, to serve as a guide for the direction of the point. The round handle allows it to be rotated between the index-finger and the thumb, the most sensitive part of the hand—two things necessary for rapid and delicate manipulation.—*Brit. Med. Journal.*

The Rapidity of Absorption from Wounds.—Some observations on the rapidity of absorption from wounds have been communicated by M. Davaine to the Academie des Sciences. The question is one of great practical importance, since a virus so often enters the system by this means. The absorption from a subcutaneous wound is extremely rapid has been demonstrated, the *Gazette Medicale* reminds us, by experiments of Renaulton on the poison of glanders and by those of Dolin on that of anthrax. A few minutes were found to be sufficient, so that cauterization was useless if it was performed more than ten or fifteen minutes after the inoculation. The investigation of Davaine related to the important question whether absorption is equally rapid from the surface of all wounds, and concludes that it is not. Having placed material from a case of anthrax on the surface of wounds produced in rabbits by vesicants, friction with rough surfaces, or the removal of a small piece of skin, he found that many animals survived when the wound was cauterized with potassa fusa one, two, or three hours afterwards. He suggests an anatomical explanation of the difference in the experimental results. In a sub-epidermic wound a number of small vessels are divided, and the circulation is maintained by the collateral branches which are given off immediately below the divided vessel, and by this the poison, which has penetrated into the interior and divided a vessel, is carried into the general circulation. The same effect is not produced in a more extensive wound, probably because most of the vascular trunks are divided. Whatever be the explanation, it is clear that punctured wounds are by far the most dangerous, and that cauterization to be effective should be very prompt.—*London Lancet.*

Nitre Tablets for Asthma and Insomnia.—Dr. Wm. Murrell, in the *British Medical Journal*, writes: There can be no question as to the value of fuming inhalations in the treatment of asthma. The ordinary nitre-paper often fails, because it is not strong enough. For some time past I have been in the habit of using very thick and strong nitre-paper, which may be called "nitre-tablets." They contain both chlorate and nitrate of potash. Each consists of six pieces of white blotting paper, about six inches square, and they are made by dipping them into a hot saturated solution of nitre and chlorate of potash. Before the pieces are quite dry, they may be sprinkled with Friar's balsam, spirit of camphor, tincture of sumbul, or some aromatic. The nitre-paper so prepared is as thick as cardboard, each piece consisting of six pieces of blotting-paper, closely adherent, and covered all over with crystals of saltpetre and chlorate of potash. The door and windows having been closed, the tablet is placed on a fire-shovel or piece of metal of some kind, and folded down the middle, so as to make it like a tent or the cover of a book. When lighted at each end it burns very quickly, throwing out a flame often four or five inches long, and giving rise to dense volumes of smoke. The asthmatic patient almost immediately obtains relief, and drops off into a quiet slumber, from which he awakes refreshed. These tablets often succeed when the ordinary nitre-papers do no good. They nearly induce sleep, and I have used them with success in cases of insomnia when most of the ordinary remedies have failed. Large pastils composed of equal parts of nitre and lycopodium are also useful in asthma.—*Chemist and Druggist.*

Mackenzie on the Use of the Oesophagoscope.—The author's œsophagoscope (*Medical Times and Gaz.*, July 16, 1881) is a skeleton speculum, which only assumes a tubular shape after introduction, by flexion of the instrument on the handle. To the upper end of the speculum is attached a laryngeal mirror. In fifty cases in which it was tried, the author succeeded in using it thirty-seven times. He relates three cases in which the instrument was of service in treatment. In the first, the author saw a ragged projecting growth in the gullet, about three inches below the cricoid cartilage, and removed a piece about the size of a cherry, which, on examination, was found to be of epitheliomatous character. The patient lived six months after the operation, which the author considers to have prolonged life for four or five months. Case 2 presented an oval semi-transparent polypus, about the size of a white currant, on the right side of the gullet, one inch below the cricoid cartilage. Complete recovery from the dysphagia ensued on removal of the growth. In case 3 a flat lamella of bone, about four millimeter square, was seen about two inches below the cricoid cartilage, on the anterior wall of the œsophagus. It was removed with forceps, and complete recovery resulted.—*London Medical Record.*.

Hysterical Affections of the Larynx.—Some observations of Dr. Thaon have been translated for the *Edinburgh Medical Journal* as follows:

Hysterical Aphonia is caused by paralysis of the muscles of the larynx. The muscles most commonly seized are the vocal muscles. Nevertheless, paralysis of the posterior crico-arytenoids is not absolutely rare, and we have known a case of this kind in which a hysterical female has been twice tracheotomized. A primary symptom of hysterical paralysis is that it is frequently bilateral, or else the paralysis is one-sided, but complicated with paresis or contraction of the opposite muscle. Thus hysterical aphonia is often complete. It is, besides, a common enough occurrence, this diffusion of hysteria in organs which are not symmetrical, as the ovaries. A second symptom of hysterical aphonia is that it frequently gives a laryngoscopic image differing the one day from the other. A third characteristic is to leave the cough intact, which even gains in intensity and breaks forth into roaring. We have even seen some cases of hysterical aphonia where the patient could sing, and some who could speak in their dreams.

Spasm of the Larynx.—The hysterical laryngeal spasm has its characteristics which distinguish it from the spasm of infancy, from the spasm from an irritation of the vagus nerve or of the recurrent, and from the spasm from the introduction of a foreign body into the larynx. This spasm is expiratory or inspiratory. The expiratory spasm is nothing else than the whimsical cough of the hysterical, a symptom common to nearly every hysteric, but one of the most painful. In a boy of fourteen years of age we have counted as many as twenty-five coughs per minute during weeks. This child was cured by a heavy rain which overtook him during a walk, and to which he was exposed two hours. At other times the hysterical cough is cured by the intercurrent affection which has been its primary cause. We know the fortunate consequences of the cure of uterine maladies from the hysterical cough. This hysteric cough was the cause of many errors being made before the laryngoscope had unveiled the exact state of the larynx. When it is met with in young girls associated with supplementary hemoptysis, it gives rise to a prognosis of which the gravity is only apparent.

Laryngeal Hyperesthesia.—Hysterical laryngeal hyperesthesia is very common. It is perhaps the most frequent manifestation of hysteria in the larynx. It is sometimes diffuse, and manifests itself by various sensations—sensations of burning, tearing, pulling, going from the throat to the sternum, sensations of a foreign body. Who does not remember being called out in great haste to see a woman who had swallowed a pin, a fishbone, etc., and who was in the greatest agony. After a conscientious examination, we find that the patient has been mistaken by a false sensation, and that we ourselves have been the victim of a false alarm. But it is not always easy to convince these same subjects that it is not a rare thing to find among them veritable cases of laryngeal hypochondriasis.

Laryngeal Anesthesia.—The result of our inquiry on this subjet is that only in one-sixth of hysteric patients we have met with more or less complete anesthesia of the epiglottis. It is the epiglottis which is frequently attacked by anesthesia and frequently to the exclusion of every other part. Anesthesia may have completely mastered the whole of the larynx, and be absolute. Generally it is bilateral, and is not limited to any well-defined nervous territory. This characteristic sometimes sufficiently distinguishes it from other anesthesias, which are as extensive as one of the areas of one of the superior laryngeal nerves, such as dipheritic anesthesia. Another important and special characteristic of this anesthesia is that it is frequently associated with a cutaneous patch of anesthesia on the front of the neck, a peculiarity already noticed with reference to hysteric aphonia. The simple introduction of the mirror is sufficient to cause many of these anesthesias to disappear.—*Canada Med. and Sur. Journal.*

THE RISKS OF INTRA-PLEURAL INJECTIONS.—A few years ago we heard far more frequently of accidents occurring during the operation of washing out an empyema than we have of late; but we are reminded of the risks in a note from Professor Billroth's clinic in the *Allgemeine Wiener Medicin Zeitung* for Dec. 20th. The writer says that Professor Billroth has become convinced of the inutility of injections for the purpose of washing out the empyemic cavity, except in a case of blood-clots and decomposing secretion; and in the latter case it suffices to perform a single but thorough injection. Thus in one case of a shot-wound in the left thorax, leading to putrid empyema, Professor Billroth made a counter-opening, and for four days allowed thymol to flow through. In ordinary empyema the chances are favorable when the operation is done at the right time, for the longer pus remains in the thorax the longer the lungs keep atelectatic, and thus does not approach the wall of the thorax. A rib is resected, a drainage tube introduced, and pus allowed free escape—a method of treatment much like that practiced by Hippocrates, who bored through the rib and introduced a short smooth metal tube into the opening. To diminish pus formation a rod of idoform can be placed in the pus cavity. Injections of cold disinfecting fluids often lead to ill consequences. Professor Billroth relates one—a female, twenty years old, with empyema, who was treated by means of injections. One day, when a cure was nearly accomplished, she became unconscious during the injection and could not be restored. Dr. Wolfler also had an older patient who became unconscious during the injection, but who recovered. Billroth explains these remarkable phenomena, that a shock is received by the organism, excited through the peripheral nerves by means of cold water, and under so slight conditions, it may be the cause of death; just as a mere blow on the testicle or stomach region can be fatal. Therefore it is important to employ injections, when they appear necessary, of warm fluid.—*London Lancet.*

CASE OF PNEUMONIA TREATED BY COLD BATH.—EARLY DEFERVESCENCE.—John D., aged 18, by occupation an errand-boy, was admitted on July 22nd, 1881. His family history presented no points of importance. With regard to personal history it was noted that he had had measles at the age of three, and had been troubled with sore eye-lids ever since, and that he had suffered from an abscess on the left knee when seven years old. It was stated that a fortnight before admission he complained of a slight pain in the left lumbar region, which passed up the chest to the left shoulder, but was not constant. He continued at his work up to the evening before admission. On July 22nd, about 6 a. m. he was taken with severe pain of a "catching" kind in the left side of his chest, for which he was brought to the hospital. On the way he had a severe rigor. On admission he was described as a strumous-looking lad with sallow complexion, complaining of headache, and of pain on deep inspiration in the left side of the chest. The temperature was 101°, the pulse 102, full and bounding. The respirations were 28. The tongue was moist and slightly furred. The skin was hot and pungent. The thorax was well formed, and resonance and breath-sounds were normal; the heart-sounds were also normal, as well as the abdominal organs.

At 8 p. m., his temperature was found to have reached 105°; and as this was the one outstanding symptom in the case calling for active treatment, he was put into a bath, at a temperature of 80°, for ten minutes. In an hour, his temperature had fallen to 103.4°; but at 10 it had risen to 104° and at 11 to 105°; when the bath, at a temperature of 75°, was again used for ten minutes. In half an hour his temperature had fallen to 103°

July 23d. At 1 a. m. his temperature was 103.4°; pulse 120; respirations 38. He was then given ten grains of quinine, which he immediately vomited. At 5 a. m., the temperture was 104.2°; at 8 it had fallen to 101.4°, and two hours later it stood at 105°. On examining the chest then, a patch of impared resonance, about the size of the palm, was found about the middle of the left lung posteriorly, over which were heard tubular breathing, bronchophony, and some fine crepitation. His urine had a specific gravity of 1027, and was acid and free from albumen: the chlorides were apparently in normal quantity. He now commenced to expectorate faintly rusty sputa. At 1 p. m., the temperature being 106.2° he was for the third time put into the bath, and allowed to remain for ten minutes. An iced-water coil was also applied to the left side of the chest, and he was ordered three ounces of brandy daily, and a mixture containing ether and carbonate of ammonia. The bath reduced his temperature by three degrees; but by 6 p. m. it had risen again to 104.4°, falling by 9 p. m. to 102.2°. In the evening, the pain in the side was much less; but the cheeks were flushed, and the tongue dry and brownish.

July 24th. The tongue was moister, and the cheeks were less flushed. The temperature was 102.6°. At 8 p. m. he was sleeping comfortably; the temperature being 102.6°, and the respiration 32.

July 25th. At 10 a. m., the temperature was 102°; pulse 100; respirations 32. The urine was found to contain a trace of albumen, and the chlorides were considerably diminished. In the evening (6 p.m.), the temperature dropped to 98.6°, and at midnight to 97.2°.

The next morning (27th) his temperature was 99°, respiration 24, pulse 88. The tongue was clean; no moist sounds were audible over the affected patch; the breath-sounds were feeble, and slightly tubular; there was less dullness on percussion; no pain was complained of now. In the evening, the pulse and temperature remained normal, the respirations being 24.

The following day's note shows that the pneumonic patch had all but cleared, there being no crepitation, and but slightly tubular breathing heard; the percussion resonance was almost clear, and the sputa muco-purulent. On two evenings after this the temperature rose, apparently in connection with an attack of earache and conjunctivitis; otherwise, it remained normal or subnormal. The trace of albumen disappeared from the urine on the 30th. Convalescence was completely established by the 10th of August; and the patient was sent to a convalescent home in the end of the month.

REMARKS BY DR. FINLAY.—The use of the cold bath in the pyrexia of pneumonia has been, so far as I am aware, but little, if at all, practiced in this country; yet, if we are to believe what we are told by Juergensen, it ought to be looked upon as our sheet anchor. In his instructive article on this disease in Ziemssen's *Cyclopedia of the Practice of Medicine*, he advances the opinion that the danger to life results from failure of the heart under the additional strain thrown upon the right ventricle, such additional strain being primarily due to the increased resistance in the pulmonary circulation caused by the exudation deposited in the lung. In addition to the increased labor on the part of the heart called forth to overcome this resistance, is the influence of the pyrexia itself in increasing the pulse-rate and inducing degeneration of the muscular substance. The control of the fever, accordingly, becomes a matter of paramount importance; and this control, he states, may be safely and quickly secured by bathing.

The case above narrated seems in one point. Although none of the more definite signs of pneumonia were present at first, there could be no doubt as to the pyrexia, and the desirability of reducing it. Hence the use of the bath. The pyrexis lasted exactly three days and a half, calculating from the rigor; and, while defervescence occurs occasionally as early as this in cases otherwise treated, or not treated at all, its occurrence so early here is sufficiently noteworthy to raise the question whether it might not have been due to the use of the bath. In 721 cases tabulated by Juergensen, the defervescensce occurred on or before the fourth day in 12.6 per cent. only; and of 81 cases referred to by Dr. Waters of Liverpool, in a clinical lecture on pneumonia published in the *British Medical Journal* of 19th November last, no case was convalescent before the end of the sixth day of the disease. Of course, no conclusions of any value can be drawn from a single case, but even single cases may be suggestive; and, looking to the enormous benefit derived from the use of the cold bath in the hyperpyrexia of cerebral rheumatism, and in enteric fever, it seems only reasonable to expect a similar result in the high temperature of some cases of pneumonia.—*British Medical Journal.*

THE CEPHALIC SOUFFLE.—M. R. Trippier, Physician to the Hospital of Lyons, has published some new researches on this subject. He believes that in certain cases a deep systolic souffle can be heard over the cranium, but principally from the sides on a level with the temples, and with a maximal intensity over the right temporal region. It can be modified or momentarily suppressed by compression of the carotid of the auscultated side or even of the opposite. The patients with whom it is observed themselves hear the intermittent bruit. It is most probably produced at the terminal part of the carotid artery, where it enters the cranium. It is most frequently met with in cases of anæmia produced by hemorrhage or cachexia, and in chlorosis; and where it is heard without anæmia, there should be a suspicion of pressure from intra-cranial tumor.—*Revue Médicale..—Dublin Journal Med. Science.*

OBSTETRICS.

Self-Infection in Puerperium.—Dr. Ohlfeld discussed this subject in the Medical Society of Giessen, November 22, 1881, as follow:

Since infection from without has been reduced to a minimum in lying-in asylums we are in position to observe cases of self-infection isolated from the rest. Hitherto in private practice it has been almost impossible to make these studies. But in the Geissen lying-in institution, the recognition of cases of self-infection is easily possible. Among the last ninety cases of puerperium only six showed any signs of fever, aside from the affections of the breasts. Self-infection during pregnancy and labor belong to the greatest rarities. Ahlfeld reports a case of prolapse of the pregnant uterus with placenta previa, still in the asylum, where the presenting placenta and decidua induced self-infection during pregnancy. Severe febrile affection before labor, spontaneous delivery of the uninjured ovum, *retention of the decidua vera*, extraction of it early on account of sharp septic symptoms, permanent irrigation, death on the tenth day after labor, were the features which characterized this case.

In the rule, self-infection occurs in the puerperal bed, and chiefly on account of the putrid decomposition of retained lochia (lochiometra), and retained blood. In both these cases spontaneous discharge or manual dilatation of the os uteri quickly allays the danger. Much more dangerous is decomposition of the tissues still adherent to the uterine walls, placenta fragments, membranes, decidua. The author shows by examples that retention of the decidua vera above all other causes brings on the dangers of septic infection. The chorion and amnion decompose very slowly, but the decidua with great rapidity. In retention of the chorion fragments of the decidua are also held back and it is from decomposition of this tissue that septic infection chiefly results. Kaltenbach first called attention to the dangers of hyperplactic deciduæ. The author speaks also of an illustrative case still in the hospital, a woman who was delivered of a syphilitic ovum. The whole decidua was retained and was found rolled up in the uterine cavity.

Should fragments of the placenta remain, the decidua adherent to it undergoes decomposition. The placenta itself may remain a long time and be finally expelled quite fresh. Only lately the author removed in private practice on the seventh day, and after the third day of high fever, a fragment of placenta upon which neither he nor the attending physician could detect the faintest odor of decomposition. Reports of similar cases often show the relics of the placenta to have been quite fresh.

The excitants of decomposition penetrate the genital tract with the air, partly during the examinations of the physician, and partly on lateral decubitus by aspiration.

If *only* decidua be retained signs of infection are wont to show themselves quite early. A longer time it takes when the decidua is concealed or protected. Retained placental fragments can scarcely long escape the recognition of the observant physician. Accurate examinations of the placenta, daily (twice) introductions of the thermometer, regular observations of the pulse and temperature and of the discharges soon awaken the suspicion of retention. In practice among midwives, the physician may only see the cases when the more dangerous symptoms are already present, high fever, chills, etc.

So long as the os uteri may be entered with the finger the fragments should be removed manually, without use of an instrument which may add new insult to the tissues, and irrigation should be practiced at once. It is not necessary to extract the masses loosened by the finger bent into a hook. Irrigation and induced contraction act much more safely. If the os uteri be impenetrable, irrigation must be diligently practiced and in urgent cases be made permanent.

Immediately after extraction of the retained masses the temperature falls to the normal degree to rise usually a few hours later; yet not to its former height. The pulse falls with the temperature but not so rapidly. The recurrence of these manifestations is to be referred to the fact that the uterine contractions induced check resorption for the time. After relaxation resorption begins again, but the amount of putrid material has been lessened.—*Berlin klin. Wochenschrift*, January 16, 1882. J.T.W.

Paralysis from Fright.—As a contribution to the subject of paralysis from fright or shock, P. R. Fel relates in the *Berliner Klinische Wochenschrift*, No. 23, 1881, the case of a sailor aged thirty-nine years, previously perfectly healthy, who was subjected to intense fright, at the sudden appearance of a shark in the water where he was swimming, and was at once attacked with a paraplegia of the legs, associated with total anesthesia and analgesia up to the navel, as well as with paresis of the bladder and constipation. After several months some motion was regained in the legs, and of the disturbances of sensation, only analgesia persisted. Paresis and catarrh of the bladder continued, while the reflex excitability of the lower extremities from the skin and tendons was increased. There were no vasomotor or trophic disturbances throughout.

After the application of a strong magnet for an hour on the outside of the left thigh the sensibility of pain recurred, and while the magnet was in position sharp contraction of the bladder set in. The urine emptied by it differed in color, clearness and reaction (neutral) from that voided at other times which was alkaline and cloudy.

According to the author the disease was a functional disturbance of the gray substance of the lumbar cord. This view is based upon the observation of the fact that the symptoms were all aggravated under emotional disturbance, and upon the fact that the application of the magnet was followed by such wonderful results.

The selection of the lumbar region of the cord as the locus morbi the author attributes to a hyperæsthetic state, or a state of increased susceptibility to disease, induced in that region by excessive indulgence in sexual intercourse continued for over a year. J.T.W.

Laparotomy for Extra-uterine Pregnancy.—Dr. C. Litzmann, (*Archiv. for Gynak.*, XVIII, 1, 1881) records a successful case of laparotomy, for extra uterine-pregnancy. The gestation was of the tubal variety, and proceeded to term.

The operation was undertaken nine months after the death of the fœtus, and was done with antiseptic pre-cautions.

The placenta appeared macerated, and the soft parts of the fœtus gave way easily under the traction. The entire sac was removed, being only slightly adherent except by a pedicle-like attachment to the right broad ligament. This was tied in divisions with a catgut ligature, and its cut surface cauterized with carbolic acid.

The incision was dressed after the manner of Lister. The convalescence was interrupted by a mural abcess, which the author imputes to the silk sutures used in closing the incision.

The case should teach us, he thinks, that it is not so extremely rare for a tubal pregnancy to advance to full term, and that we should take this possibility more into account in practice.—*N. Y. Med. Jour. and Obstet. Review.*

Electricity in Uterine Diseases.—M. Hélot, of Rouen, speaks highly of this method of treatment in chronic engorgements accompanied by prolapse. He states that the uterine catarrh has disappeared under the influence of the changes brought about by the current, and that he has never felt the necessity of making applications to the neck in order to see the ulcerations disappear.

The apparatus consists of 12 Gaiffe elements, 15 centimetres high, (chloride of zinc and oxide manganese), a rheostat, a Trouvé interrupter and a galvanometer divided into milliwebers.

The author thinks himself justified in making the following conclusions:

1st. The uterus, under the influence of electric currents, presents plainly contractions, not only during pregnancy or immediately after delivery, but also in an empty state.

2d. The contractions can be made visible in certain pathological conditions where a mucous plug in the cervix retains the secretions of the uterus. The contraction drives out this index, which takes its former position as if aspirated, when the contraction has ceased.

3d. The contractions may be obtained by a Faradic current, interrupted a great many times in a second; but this method is painful and its use ought to be limited to post-partum hemorrhages.

4th. Galvanization by interrupting continued currents provokes this contraction in a more favorable manner, because it causes less pain and because there is added to the mechanical effect the electric action of the pile, rendered harmless by the frequent change of chemical action into motion.

5th. The maximum of useful effect has been produced with a current of 25 to 30 milliwebers interrupted each second for a very short space of time.—*Paris Médical.*—*St. Louis Med. and Surg. Journal.*

Extra-Uterine Pregnancy: Expulsion of the Fœtus by the Rectum: Cure.—On the 19th of December, 1879, Dr. Bulteau was called to a woman suffering from terrible abdominal pains and continuous vomiting; her face was contracted, pulse small, and abdomen distended and painful in the left iliac fossa. The patient was thirty-three years old, had generally been in good health, and had had a miscarriage six years previously, since when her menstrual periods had been irregular. A diagnosis of pelvic peritonitis was made; and the symptoms disappeared under treatment with opium, an irregular tumor, however, remaining in the left iliac fossa. The general health continued to fail, vomiting persisted, and it was thought at one time that there existed a cystic sarcoma of the uterine appendages. Several months later the patient had an abundant sanguinolent diarrhœa, after which the tumor diminished considerably in size, and one month later, a femur of a fœtus escaped by the same means. Ten months after the commencement of these deliveries the patient had entirely regained her health.—*Union Méd. dü Nord-Est*, Oct. 15, 1881.—*Med. News.*

Laughing-gas as an Anesthetic During Labor.—In a paper recently published in the *Archiv für Gynäkologie* Dr. Stanislaus Klikowitsch, of St. Petersburg, advocates the use of nitrous oxide for the purpose of obtaining anesthesia during labor. He has employed a mixture of four parts of nitrous oxide and one of oxygen, kept and supplied under a sufficient pressure to make its density the same as that of atmospheric air. The author has a minature gasometer in which he stores it; for obstetric purposes he carries it in an india-rubber bag which he puts under the pillow of the patient. The advantages which he claims for it are the following: 1. Its use is quite free from danger either to mother or child, and it has no unfavorable effect in prolonging labor, contrasting in this respect advantageously with chloroform. 2. It without doubt does away with pain in all the stages of labor. 3. By means of this mixture complete anesthesia can be obtained without loss of consciousness, and therefore without diminishing the action of the voluntary muscles; the fullest possible power for the expulsion of the child. 4. Absence of vomiting, and often, if vomiting has begun, relief to this symptom; absence also of any period of excitement, and of the after-consequences of anesthetics —nausea, headache, dyspepsia, etc. 5. The anesthesia can be continued throughout the whole period of labor, without any cumulative effect; since during the intervals of pain the effect of the preceeding inhalations completely passes off. 6.

The presence of the medical man is not indispensably necessary for the administration of this anesthetic. The chief objections to the use for this purpose of nitrous oxide are its comparative costliness and that the gas and the necessary apparatus are not so portable as could be desired. We should be inclined to dissent from the statement which the author puts sixth in his list of advantages.—*Med. Times and Gazette.*

TREATMENT OF SPASMODIC DYSMENORRHŒA AND STERILITY BY DILATATION OF THE CERVICAL CANAL WITH GRADUATED BOUGIES.—Dr. Godson, in a paper upon this subject read before the Obstetrical Society of London, presented notes of five successful cases, in which natural menstruation followed the use of the bougies, and pregnancy occurred within a few months. Five other cases thus treated had resulted less encouragingly, although the dysmenorrhœa was of the kind known as spasmodic or obstructive, characterized by severe colicky pain in the hypogastric and sacral regions, either before the menstrual flow or coincident with it. The author preferred to drop the title obstructive, as he knew no evidence to prove that there was a want of patency of the cervical canal; and Dr. Duncan had passed a probe into the uterus at the height of the pains without meeting with obstruction. He believed that the spasm of the uterine muscular tissue was of itself sufficient to give rise to the severe pain without obstruction. The authors conclusions were: 1, that the method was simpler and safer than any other proposed; 2, that the dilatation might be performed with safety at the house of the consultant; 3, that a very small amount of dilatation was necessary; 4, that the operation should be performed within a week or ten days after a period; 5, that it should be done not on successive days, as hitherto recommended, but all at once; that the first bougie should be a small one, and that there should not be sufficient difference between the size of successive bougies to cause a splitting of the mucous membrane; 6, that pregnancy appeared to occur on account of the dilatation having cured the condition on which the dysmenorrhœa depended. In none of his cases was there either stenosis or constriction of the canal by acute flexion. The theory of spasmodic constriction being discarded, the author suggests that the impediment was a spasmodic constriction, causing ejectment of the semen.—*London Lancet*, December 31, 1881.

BROMIDE OF POTASSIUM IN INFLAMED BREASTS.—Dr. J. Grammar (*Virginia Medical Monthly*, September, 1881) reports good results from the use of bromide of potassium in inflammation of the breast, given internally in doses of two grains every three hours during the day.—*N. Y. Med. Jour. and Obstet. Review.*

THE next International Medical Congress will be presided over by Professor Panum, of Copenhagen, at which place the Congress will hold its sittings. The secretary-general is Dr. Carl Lange.

Miscellany and News.

POST-MORTEM BACTERIA.—In both men and animals dying from acute infectious diseases colonies of micrococci have frequently been found in the bloodvessels, occupying the cavity for longer or shorter tracts. The origin and mode of developement of these collections have been the subject of special study in the Strassburg Pathological Institute by Wassilieff, of St. Petersburg. The observations were made on frogs, since Von Recklinghausen has found that in them the micrococci develop in the bloodvessels with great rapidlty, and that they present greater facilities for the study than do higher animals. If ulcerative processes are produced, as by the inoculation of pus, and other animals are successfully infected with the secretion, a form of septic infectious disease is gradually produced, acute and usually fatal, accompanied shortly before death with numerous bacteria in the blood, and with the occurrence of extravasation in various tissues. In the bodies of these frogs a development of micro-organisms, bacteria and micrococci, commences immediately after death, chiefly in the vessels, and reaches the greatest degree of intensity in the skin. In the latter all the vessels are plugged with colonies of micrococci at the end of twenty-four hours, as if the whole tissue had been injected with micrococal material; their development is favored by warmth, moisture, and the presence of air. If the blood, or fragments of the tissues, of such septic frogs are injected into the lymph-sac of other frogs, the same disease is produced with similar appearances during life and after death. If such a septic frog is killed before the bacteria are visible in the skin, these may be entirely absent after death, or may be found only in circumscribed regions. In the bodies of frogs which have not died from septcæmia no trace of such micrococcal development is to be discovered in the cutaneous vessels, always providing there has been no loss of substance during life. The latter, if attended with ulceration, may be followed by the post-mortem appearance of micrococci in the vessels of the skin near the ulcers, and also at a distance, and the organisms developed are not to be distinguished from those of septic frogs, the only differences being in the density and extent of the development. It is very remarkable that, during life or immediately after death, no sign of these micrococcal colonies can be discovered in the vessels of the septic frog, even in the immediate vicinity of recent extravasations. Hence we cannot refer these evtravasations to micrococcal obstruction, as some writers have assumed. They appear to be produced by the arrest of the blood current by spherical hyaline masses (which are constantly to be found in the blood of septic frogs), and in some cases by pigment masses. The individual micro-organisms are either free in the blood or else embedded in white-corpuscles. Under certain conditions, however, micrococcal colonies may be observed to develope during life, and this not only in septic but also in healthy animals. The intravital development occurs only when the circulation is arrested in a certain region. The effects are produced best by dipping one hind leg, for a few seconds, in water at 50° C. until tetanic contraction occurs in the muscles of the limb. After one or two days micrococcal colonies are found to have developed in the vessels and in the cutaneous glands, accompanied by signs of moist gangrene. The same result sometimes follows arrest of the circulation by ligature of the femoral artery.

These observations have a most important application to the pathology of the higher animals, including that of man. It has been hitherto assumed, in the numerous cases in which micrococcal plugs are found in the vessels, that they were developed during life, and, according to modern pathology, they play a most important part in the production of symptoms and in the causation of other morbid processes. If the facts ascertained with regard to the frog are to be accepted as true also of man (and we can see no *à priori* reasons why they should not be), many of the current conclusions will have to be revised and possibly modified. If bacterial plugs in the vessels are sometimes formed during life, but much more frequently after death, a task of no small difficulty—that of distinguishing the *ante* and *post*-mortem origin of such obstruction—is added to those of advanced pathology. The task is the more difficult since the criterion usually relied upon in similar cases—that of the evidence of vascular obstruction during life—is no longer valid, since this, usually regarded as the effect of these micrococcal plugs, may be in reality their cause.

These observations have another important bearing on human pathology. Putrefaction seems to arrest the growth of many morbific organisms, which cannot thrive and even die under the conditions in which the bacteria associated with putrefaction flourish. But it would appear that the interval between death and putrefaction is attended with conditions which are extremely favorable to the development of at least some organisms of high pathogenic virulence. The fact of the intensity of many septic poisons shortly after death—notably, for instance, that of puerperal fever—is well known, and it is probable that this post-mortem virulence is due not only to the persistence of the poison produced during life, but to its positive augmentation, by organic growth, in the still and slowly changing blood.—*London Lancet.*

MEDICAL SCIENCE AMONG THE ANCIENT EGYPTIONS.—Dr. Friis has made a careful and exhaustive investigation as to the habits and customs of the ancient Egyptians. The following notes are an abstract of the information given as to Medical affairs:

As to hygiene, the Egyptians were great friends of cleanliness; they washed and bathed themselves several times a day, shaved their hair and beards, and practiced circumcision.

The daily burning of incense bore the stamp not only of religion, but of hygiene.

The Egyptians made use of regular exercise, but to what extent cannot be told.

They lived chiefly upon vegetables (cereals, fruits, roots, etc.); but the flesh of animals, domestic and wild (fish among others), entered also into their ordinary alimentation; however, they dared not eat of all kinds of animals indifferently. Their principal drinks were water, beer and wine.

The physicians belonged to the caste of priests; they cultivated their art as a science, and enjoyed great consideration in their country and abroad.

Their anatomical knowledge was very defective.

The physician and conjurer exercised their vocation in company, and several formulæ for exorcism are given.

Diseases of the eyes, of the skin and of the stomach were the most frequent; but we can trace others. There is even a certain appearance that syphilis was already known in ancient Egypt.—*Nord. Med. Arkv.*—*St. Louis Courier of Medicine.*

PROPHYLAXIS OF VENEREAL DISEASES.—The session of *Congress of Hygienists*, at Milan, September 3, 1881, discussed the question of the prophylaxis of venereal diseases. The following were the conclusions reached:

1st. Public prophylaxis against the diffusion of syphilis is of such social importance that the obligation of instituting and maintaining it constitutes a duty imperative upon the government itself.

2nd. Prostitution being the chief means of diffusion of the syphilitic affections, the government has the right and the duty of keeping watch over the women who devote themselves to this vice, and to submit them to a medical inspection periodically and at short intervals.

3d. The weekly medical inspection of the soldiers and marines should be scrupulously carried out.

4th. A sanitary inspection for the merchant marine service, for the workmen at ports and arsenals, for the great state manufactories or public departments, for workmen in glass factories, for prisoners of both sexes detained under the imputation of crimes or misdemeanors.

5th. While recommending the erection of special syphilitic hospitals in populous commercial cities, the admission of syphilitics into all the ordinary hospitals should be facilitated.

6th. It was recommended to establish free dispensaries for the treatment of venereal diseases.

7th. In demanding the adoption of a law for the protection of infants, it would be indispensable to establish municipal commissions, which should have oversight of nurses and nurselings, for the purpose of arresting at once congenital syphilis and syphilis by nursing.

8th. To create refuges or asylums for depraved minor women and for repentant prostitutes.

The Congress is of the opinion that we should favor social, economic and educational measures which should deter women from prostitution; that it is necessary to treat the social wound of prostitution in its causes and its origin; that when prostitution shall be made to cease, and especially uncontrolled prostitution, the problem of the extinction of syphilis will become of easy solution.—*La Presse Medicale Belge.*—*St. Louis Courier of Medicine.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, March 4th, 1882.

The Week.

COMMENCEMENT EXERCISES.

MEDICAL COLLEGE OF OHIO.

The Sixty-First Annual Commencement Exercises were held in Music Hall on Wednesday evening, March 1st. There was a large attendance of matriculants, alumni and friends of the College to the number of several thousands. The alumni were massed upon the platform with the faculty and trustees.

After music on the great organ by Professor Whiting, the Dean opened the exercises of the evening.

Remarks by Prof. W. W. Seely, M.D., Dean.

We meet to-night to celebrate the close of the 61st annual session of the Medical College of Ohio.

The history of the Medical College of Ohio begins along with the first pages of that of the city. She has numbered and continues to number among her alumni the majority of the practitioners of the city and surrounding country.

During her entire history, but more markedly during the last decade, it has been the policy of the Medical College of Ohio to awaken demands for increased facilities in her alumni and students, rather than to await suggestions from them, till to-day in no college in the land can students enjoy greater advantages for qualifying themselves for practice. As an evidence of the healthy growth of the College and as an earnest of her perpetuity, I may say to the Honorable Board of Trustees and to the alumni, that there is now so large a corps of young men, sons of the College, engaged in the practical departments and acting as assistants, whose reputations are such as to almost warrant me in saying that were the present faculty as a body to cease to-day, the college would probably suffer little diminution in her matriculation list for the next session.

It will thus be seen that the students of this College are constantly surrounded by and breathe an atmosphere such as only the enthusiasm of younger life creates and without which study is a burden.

The dry facts of an education can doubtless be had in smaller and younger institutions, but the filling of the interspaces, the rounding off, and also, if you please, the amenities of an education, all those adjuncts of education by association, hover around the old institution and come from the every day mingling of a large corps of teachers and students.

The session just ended shows the largest number of matriculates of any in the history of the College (342) and of this number 103 having fulfilled all the conditions necessary for graduation, by a vote of the Board of Trustees, will receive their degree of Doctor of Medicine at the hands of the President, the Hon. Flamen Ball.

Next followed the conferring of the degree of Doctor of Medicine upon the following class, by the acting president of the Board of Trustees.

Names of Graduates.

Geo. S. Adcock, Ky.
Jno. R. Allen, Ky.
Arthur B. Ancker, O.
Jas. M. Ayres, O.
Marc L. Bond, Ind.
Albert R. Burton, Ind.
Londus Brannon, Ind.
James Byars, Tex.
Galen L. Cline, O.
J. Liter Conn, Ky.
J. W. Crum, Ind.
Cassius M. Craig, Ind.
J. Alex. Davisson, O.
Jno. A. Dickey, O.
E. F. Everist, O.
Alvah W. Grosvenor, O.
Rob't L. Harris, Ga.
Benj. F. Hatfield, Ind.
Chas. O. Allen, O.
Frank M. Anderson, O.
W. G. Armstrong, Ky.
J. N. Bartholomew, Ind.
Michael P. Buckley, O.
N. E. Bradley, O.
I. J. Brooks, Ky.
Frank Caldwell, O.
Jas. W. Coburn, Ky.
M. F. Cupp, Ind.
W. P. Crumbacker, O.
Henry O. Davis, Ky.
S. P. Deahofe, O.
Wm. Dillon, Ills.
Bart Fitzpatrick, Ind.
Jas. F. Hamsher, O.
Romeyn B. Hart, O.
Wm. E. Hervey, W.Va.

Jas. L. Henderson, Pa.
Jos. G. Hirons, O.
G. L. Hines, O.
Jas. L. Holden, O.
J. B. Houston, W.Va.
J. A. W. Hughey, O.
Jno. W. Hulick, O.
Frank Humphreys, O.
Oliver J. Jenkins, Ky.
J. P. Johnston, Pa.
Frank L. Kinsey, O.
Jno. R. Lancaster, O.
Benj. F. Lyle, O.
S. A. Marshall, O.
J. F. Maxwell, O.
T. T. Metcalf, Ky.
Edwin W. Mitchell, O.
T. J. Moneyhon, Ky.
D. B. Mory, O.
A. S. McDaniel, Tex.
Richard McCarthy, Ills.
Wm. C. McCord, Pa.
M. S. McCormick, Ind.
Jno. G. McDougall, O.
H. McElwee, O.
N. T. McTeague, O.
Wm. Neal, Ills.
Chas.W. Newland, Ind.
John Nixon, Ind.
A. P. Ormsby, Ind.
E. L. Paulding, O.
G.R.Peckinpaugh, Ind.
LeRoy Pence, O.
Ch. L. Pindar, O.
Laban B. Plummer, Ky.
E. H. Pocock, O.
J. W. Prendergast, O.
B. K. Rachford, Ky.[1]
F. A. Rœder, Germany.
Chas. A. Rollins, O.
Jno. A. Romspert, O.
Myron G. Rood, Wis.
Jas. A. Roseberry, O.
Andrew J. Rule, Ky.
Henry Schoenfeld, O.
John C. Sexton, Ind.
J. D. Sidebottom, Ky.
John M. Sisler, O.
John S. Smith, Ind.
G. A. Sprecher, O.
Jas. K. Steuart, Ind.
A. H. Stewart, Ky.
Rob't W. Stewart, O.[1]
W. L. Stephens, Ky.
Henry L. Taylor, O.
O. H. Thomas, O.
H. B. Thompson, O.
Robert D. Tilton, Ky.
S. M. Townsend, Ind.
A. R. Touvelle, O.
Samuel Toman, O.
Thos. W. Tuggle, Ga.
J. T. Wallingford, Ky.
J. P. West, O.
Chas. C.Whitsitt, W.Va.
P. M. White, O.
H. H. Wilcox, Minn.

Ad Eundem, Chas. H. Thomas, M.D.

Total	104
Total number of matriculates	342

In the absence of the President, Hon. Flamen Ball, the Hon. H. C. Whitman delivered an address on the part of the Board of Trustees, opening with a eulogy of the institution, and then enjoined upon the class the importance of entertaining high aims in the practice of their profession.

Prof. Seely next read the list of prizes. Each recipent was called to the platform received the prize with congratulations from the Dean, and paid his respects to the professor from whom he received it.

List of Prizes.

Prof. Forchheimer—Physiology—a microscope; taken by Dr. D. S. Deahofe, Postdam, O.

Prof. Seely — Ophthalmology — gold medal; taken by Dr. Frank Caldwell, Cincinnati.

Prof. Hyndman—Medical Chemistry—a microscope; taken by Dr. Orange H. Thomas, Findlay, O.

Prof. Conner—Anatomy—gold medal; awarded to Dr. Henry L. Taylor, Cincinnati.

Prof. Nickles—Materia Medica—gold medal; awarded to Dr. Edwin W. Mitchell, Delaware, Ohio.

Prof. Whittaker—Theory and Practice of Medicine—post mortem case of instruments; awarded to Dr. Frank Caldwell, Cincinnati.

Prof. Dawson — for best bandaging — gold medal; Mr. Lester Keller, Gallipolis, O.

Prof. Dawson—for best drawing—gold medal; Dr. J. Oliver Jenkins, Morning View, Ky.

Prof. Dawson — for best dissection — gold medal; Dr. Hamilton H. Wilcox, Glenville, Minn.

Prof. Reamy — Obstetrics — gold medal; awarded to Dr. Christopher L. Pindar, Dayton, Kentucky.

Prof. Palmer—Gynecology—case of gynecological instruments; awarded to Dr. Edwin W. Mitchell, Delaware, O.

Prof. Ransohoff—Descriptive Anatomy—gold medal; awarded to Dr. B. Knox Rachford, Alexandria, Ky.

Good Samaritan Hospital internes are: Dr. Edwin Lyttleton Paulding, Piqua, O.; Dr. Joseph G. Hirons, Buford, O.; and Dr. James Nelson Bartholomew, Stockwell, Ind.

Cincinnati Hospital internes are: Walter Christopher, Louis Schwab, Frank Tripp, all of Cincinnati.

Faculty prize—best papers in all departments—gold medal; awarded to Dr. B. Knox Rachford, Alexandria, Ky.

Valedictory Address by Prof. Jas. G. Hyndman.

My first duty is a pleasure. It is to express my high appreciation of the honor conferred upon me by my associates in their selection to address you on their behalf this evening. An appointment of this character from the faculty of the oldest and most successful medical college in the West should always be considered a great honor. Especially is this the case when it affords me the privilege of speaking to-night to one of the largest and most intelligent graduating classes which the Medical College of Ohio has ever sent out from her time-honored walls.

In addressing you upon this last occasion I feel myself impelled by force of habit as your teacher to continue to the end our custom of giving instruction or advice. The brief time at our disposal compels me to limit my remarks to a single subject. That to which I now desire to direct your attention is one which to-day, more than ever before, is forced upon the consideration of the recent graduate in medicine. Your observation since arrival in this city has shown you that certain classes of cases are largely relegated to special practitioners. Some divisions of practice thus established are so well understood by the laity that the family physician is not even consulted. Many city physicians in active practice will tell you that they have not for years been consulted in the case of a diseased or injured eye or ear, or been called upon to amputate a limb or remove a tumor.

General as is this custom, modern specialism is of recent date. Of certain kinds of specialties we read in ancient history, but a study of these references shows that they were looked upon as beneath the notice of the educated physician. Many of you will remember an illustration of this in the Hippocratic oath, to which all physicians were once expected to subscribe and which binds the person taking it never to cut for stone, but leave that operation to that lower class who made a business of it. For many years it was a question as to why such a prohibition was introduced into this earliest code of medical ethics; recent study shows that the operation was forbidden because, as then practiced, was not performed according to any fixed rules, but was an exceedingly hazardous experiment. With the rapid advances in the study of anatomy together with the aids furnished us by anæsthesia and improved surgical appliances, this prohibition of the father of medicine has long been regarded as obsolete.

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[1] Resident Physicians Cincinnati Hospital.

Leaving the classification of practice into medicine and surgery as divisions dependent mainly upon the individual tastes of the practitioners, let us turn for a moment to the consideration of specialties in medicine proper.

For a long time the divisions were dependent upon the plans of treatment adopted, and we read of hydropathic and electric physicians, of gymnasts and herbalists. At the present time, however, different organs or systems of the body are taken as the bases of classification. We find, consequently, persons devoting themselves exclusively to practice in diseases of the eye, the ear, the respiratory, the nervons system. This is very different from that spurious specialism which Cicero tells us prevailed in his day and which marked the decadence of Roman medicine. At that time there were specialists for every organ of the body, even to the eyelashes. But the specialism of that day was based, not as now, upon a broad and comprehensive knowledge of human anatomy, but upon a profound ignorance; and it thrived because of the general illiteracy characteristic of the period.

The modern separation of medicine first from the other natural sciences, then into divisions of its own has been due to the increase of knowledge being far greater than the increase of individual mental power. As most concisely and beautifully stated by Paget in a recent address, the average mental power increases in successive generations of well-trained people, but it does not increase so fast as does knowledge, and thus, in every science as well as in our own, a small portion of the whole sum of knowledge has become as much as even a large mind can hold and duly cultivate. For practical life we must all have a fair acquaintance with many parts of our science, but none can hold it all. And for research no one can hope for success unless by limiting himself within the few divisions for which he is by nature or by education best fitted. Thus the division of our science into specialties is only an instance of that division of labor which in every prosperous nation we see in every field of active life and which is always justified by more work better done. Besides, there is always enough in each of these specialties for a strong mind to do. If you doubt this, take the advice of the same brilliant authority from whom I have quoted and try your own strength in the discussion of several of them. Such attrition with your neighbors as is gained in the general medical society will soon dispel all possible illusions upon this subject.

The field of medical study is now so broad that the day is long past when any one person can till successfully any large section of it. No medical man of the present or future is likely to excel in several distinct departments of science. No Galen, almost omniscient in his day, will ever again appear to write hundreds of authoritative treatises upon philosophical, mathematical, judicial, grammatical and medical topics. Even the much narrower range of a Servetus, a da Vinci or a Hunter is denied us of this generation.

Our national medical association recognizes the necessity of this division of labor by the establishment of sections on otology and ophthalmology, gynæcology and obstetrics, laryngology and diseases of the nervous system. All medical colleges demonstrate their appreciation of it by appointing as teachers in each of these departments, men who have fitted themselves for their several chairs by special study and practice.

It may be urged that this multiplication of studies and the natural desire of investigators to associate their names with new facts or processes leads to much that is useless. Very true, but who is to determine the utility of these labors? The history of medicine affords us examples without number of grand and far-reaching results, following researches which at the time were deemed most insignificant. The finished product of one department may be but the beginning of the next. Probably the greatest boon ever offered to suffering humanity was the discovery of anæsthesia. The substances now employed with such beneficent results were known to the chemist long before the active mind of the physician, in another department, applied them to their present purposes. Here, as well as in the case of our most valued hypnotic, the plaything of the chemist was converted by the broad and far-reaching intellect of the physician into an agent devoted now to the holy purpose of alleviating pain and suffering, adding centuries to the aggregate of human life and bringing untold happiness to thousands of our fellow-beings.

Large cities, with their thousands of sick and suffering, are the only places where these studies can be appropriately prosecuted. There only can be found that great variety so necessary for the proper investigation and illustration of each of the several departments now recognized. In former years, American students desirous of these privileges were compelled to go abroad to obtain them. To-day, the rapid growth of our own centres of population, with their never-failing accompaniments of pauperism and disease, has created a field of study inferior to none in foreign lands. It is a source of congratulation and pride that the opportunities thus afforded have been embraced by home talent, and that we can now find in all large cities reliable and experienced physicians to whom we can safely refer peculiar cases in their several departments of study and practice.

"One great danger connected with this subject must be referred to—a danger liable to react with great damage to the practitioner himself. A popular idea prevails that a deeper knowledge and a more intimate acquaintance with the diseases of any certain organ is obtained by an exclusive consideration of that certain part. No greater fallacy than this can be conceived. To come to a correct conclusion as to the *fons et origo mali*, and to treat successfully the maladies of any single organ, the true and successful specialist must consider all the symptoms produced, and take a comprehensive view of the organic changes in the various parts of the animal economy."

Probably no diseases better exemplify the necessity of a wide and mature consideration of the general system than do those implicating the eye, either primarily or secondarily. The same local symptoms may often be found existing under widely diverse conditions, in the one case indicating a strictly localized affection, in another only a secondary effect of a remote lesion, as of the kidney. The dimness of vision caused by an opaque lens or an optic neuritis, can never be thoroughly understood or properly relieved by a specialist who fails to inquire into the character of the renal secretion.

I have cited but a single branch of our science in illustration of the point I desire to impress; but the same argument applies with equal force to each and every division of modern medicine.

It is the lack of this ability or inclination to search for and view comprehensively the various symptoms produced by remote organs which lends force to the objections so frequently urged against specialists.

But these objections apply not to specialism itself, but to its abuses. The true specialist is made, not born. Years of general practice and of trained observation are required to fit him for his particular labor.

Follow the plan I have indicated: of first obtaining a general acquaintance with the entire field, and then, if your tastes lead you, and surrounding circumstances favor, devote your practice exclusively to a certain section of it. In this way, and in this way only, can you achieve a deserved eminence and have your names enrolled with those of Jenner, Paget, Simon, Græfe, Sims, Virchow, Darwin and others now famous in medicine, surgery and biological research.

But it is not possible, nor is it advisable, that you should all become specialists, as the term is generally understood. Many of you will locate in the country and in small villages, where you will be expected to undertake anything and everything at a moment's notice. You will be called upon to treat apoplexy and dress a burn; to encounter smallpox and cholera; to set a broken limb or remove a foreign body from the eye. These you must do at once and do without that professional assistance which we in the city can always obtain upon the shortest notice. You must therefore have a general knowledge covering the entire ground as nearly as possible.

While paucity of population and other environing circumstances may always prevent your confinement to any certain class of practice, each of you may and should by special study, cause yourself to be recognized by your neighboring practitioners as an authority, at least in the literature of some one or more branches.

By carefully investigating each case as it presents itself to you, and reporting to your professional brethren any peculiarities in its course or its treatment, you will add immensely to the fund of our general knowledge.

These communications you will make orally to your local medical societies; or possibly you may prefer to address a larger audience through the columns of the medical press. This affords me an opportunity of offering a word of advice upon the character of these literary productions. Be not impatient in your earlier years of practice to appear as a frequent contributor, but let each of your efforts give evidence of literary finish and of thoroughness of research which will entitle it to a lasting position, and which will, in after years, afford you greater satisfaction than more numerous papers superficially prepared. It is a matter of common observation that the literary productions of the masters of our science, while less numerous in their later than in their earlier years, show a greater completeness and conciseness which enable them at once to take a permanent place in medical literature, while many of their earlier efforts are consigned to oblivion.

Profit by their experience, avoid their errors and increase your own usefulness, while at the same time you are building your own personal reputations.

The life upon which you are about to enter will not be one of uninterrupted pleasure. You may have your times of despondency. Your success at the beginning may not be brilliant. Your calls may be infrequent and the pecuniary recognition of your labor exceedingly slight. But even the abundance of time at your disposal will have its advantages, for in these otherwise unoccupied hours, you may by patient and conscientious study be laying the foundations of future greatness. Never permit yourselves to become discouraged because you may possibly be slow in acquiring knowledge, but toil patiently and unceasingly, remembering that in a score of years the genius will most probably be at mediocrity and the plodder at the top. It is not the showy, but the diligent and the studious physician who is the best. Incomparably the best, the most valuable contributions to our science have been made not by the geniuses but by the workers. There are to-day hundreds, aye, thousands, of physicians in obscure villages who are doing far more good to their own communities, and whose few literary productions have in them far more of value than is the case with many men of metropolitan reputation. It is by close observation and induction that many of the leading discoveries in medicine have been made. The immortal Jenner, to whom the world owes the preservation of millions of lives, and comparative exemption from a most loathsome disease, was a country doctor and not a man of erudition or genius, but simply a close observer who utilized to the utmost everything that fell under his observation. Had he practiced in any other than a dairy county it is doubtful whether he would ever have made his great discovery.

Take him as your example. Whatever be your location or station in life, train your minds to a vigilant study of all the phenomena of nature and of disease, however slight, which fortune may place in your way; study carefully each feature of the cases confided to your care and you too may have your names enrolled upon the scroll of fame.

The Medical College of Ohio sends you forth laden with her honors, confident of your ability and heartily wishing each and every one of you a happy and successful career.

The usual presentation of boquets and presents to the graduates then followed. After music the audience dispersed.

The Trustees, Faculty, graduating class and Alumni, with visiting physicians, repaired to Dexter Hall, in the same building, where Keppler had spread a bountiful lunch, which all appeared to enjoy. It was past midnight before the last left the building.

EXAMINATION QUESTIONS.

The following questions, ten in each department, were submitted to the graduating class of 1882 at the Medical College of Ohio:

Ophthalmology.—Prof. W. W. Seely, M.A., MD.

1. What communications exist between the cranial and orbital cavities, and to what do they give passage?
2. Give the origin and insertion of the ocular muscles.
3. What is meant by refraction and what by accommodation?
4. What is meant by presbyopia, and what is the cause?
5. In a mild form of keratitis, how do you account for the opacity?
6. What is the source of danger in iritis?
7. Diagnosis and treatment of iritis.
8. Name the chief mydriatics and myotics.
9. At what period of life do we look for iritis and glaucoma?
10. Diagnosis and treatment of glaucoma?

Anatomy—Prof. P. S. Conner, M.A., M.D.

1. A ball enters at internal canthus of the left eye and passes out through the right external auditory meatus, deflection not occurring. What structures are passed through?
2. Name in order structures divided in amputation of the arm through the middle third.
3. Same in amputation through the middle of the leg.
4. Same in Pirogoff's amputation.
5. A ball enters over the right external abdominal ring and passes out through the left trochanter major. Deflection not occurring. What structures are passed through?
6. Name in order structures divided in castration.
7. Same in complete removal of the scapula.
8. Same in lumbar colotomy.
9. Same in complete removal of the inferior maxilla.
10. Position and relations of the three portions of the left subclavian artery.

Materia Medica—Prof. Samuel Nickles, M.D.

1. Explain the action of quinine in large and in small doses.
2. Physiological action and uses of morphia.
3. Symptoms indicating danger in anæsthesia, ether and chloroform.
4. Physiological action of atropia.
5. What symptoms indicate that arsenic is beginning to produce its physiological effect?
6. Dose of Fowler's solution, morphia, atropia, strychnia and chloral.
7. Indications for the use of digitalis in valvular disease of the heart.
8. General indications for the use of cathartics.
9. Treatment for poisoning by morphia, arsenic and strychnia.
10. Constituents of compound cathartic pill.

Theory and Practice—Prof. J. T. Whittaker, M.A., M.D.

1. Name the diseases which were formerly, and are now commonly included under the term "rheumatism."
2. Describe the initial and hemorrhagic eruptions of smallpox.
3. Treatment of erysipelas.
4. Differential diagnosis of fecal impaction and invagination of the intestine.
5. Symptoms of catarrhal pneumonia.
6. Physical signs of mitral obstruction.
7. Condition of the urine in chronic parenchymatous nephritis.
8. Causes of meningitis.
9. Premonitory signs of locomotor ataxia.
10. Symptoms of brain tumor.

Surgery—Prof. W. W. Dawson, M.D.

1. Length of limb in four hip joints; dislocations and reasons therefor.
2. Describe Sutton's, Reed's and Bigelow's plans for reduction of dislocations of the hip.
3. What disease follows unrelieved depressions of the skull?
4. Why is the trephine less frequently applied in children than adults?
5. What is the location of the ulna in Colle's fracture?
6. What injury gives the appearance of partial dislocation of the head of the humerus?
7. What are the leading indications for treatment and remedies for shock?
8. What muscles intensify the deformity in Pott's fracture?
9. What rules should guide you in the use of the knife in removing malignant disease?
10. Treatment of fissure of the anus and fistula in ano.

Obstetrics—Prof. Thad. A. Reamy, M.D.

1. Give the source of menstrual blood.
2. Define pregnancy.
3. How may multiple pregnancy occur?
4. What is the chorion? Its functions?
5. Give the physiology of a labor pain.
6. Define contraction and retraction of the uterus.
7. Describe movements of the fœtal head—normal labor.
8. Management of the placenta.
9. What symptoms portend puerperal eclampsia.
10. Prophylaxis and treatment of sore nipples.

Gynecology—Prof. C. D. Palmer, M.D.

1. What are the clinical proofs that menstruation may occur without ovulation?
2. Name the conditions producing pruritus vulvar.
3. Results of complete rupture of the perineum in the order of their sequence.
4. Forms of so-called ulceration of the cervix uteri.
5. Dangers of interuterine injections, and how, explain symptoms?
6. Forces in general that produce uterine displacement.
7. With what is retroversion apt to be confounded?
8. Methods of replacing retroverted uterus.
9. Diagnosis between intra-uterine fibroid and pregnancy attendant with equal enlargement.
10. Diagnosis between ascites and mono-cyst of the ovary.

Physiology—Prof. F. Forchheimer, M.D.

1. Protoplasm. Give the ways in which the various states of protoplasm are reproduced.
2. Proximate Principles. Glycogen. Where found? How prepared? How detected?
3. Proximate Principles. Urea. How is its formation affected by exercise? State your reasons.
4. Food. What relation must the quantity of food bear to the excrements in order that the animal may remain in good condition? What effects are produced by starvation?
5. Digestion. Give the results of pancreas digestion.
6. Blood. How are fibrinogen and fibrinoplastin obtained.
7. Respiration. Mention the organs involved in inspiration and expiration.
8. Circulation. Why is the syphygmographic traces affected by a lesion in the aortic valve?
9. Secretion. What effects are produced by covering an animal with an impermeable coating.
10. Nervous System. How does the repiratory centre perform its function?

Descriptive Anatomy—Prof. Jos Ransohoff, M.D.

1. What are the varieties of cartilage? Give an example of each.
2. What is the essential element of every nerve fibre? Give two illustrations of the manner of its termination.
3. Describe the situation and construction of the valvulæ conniventes.
4. Give the relations of the liver to contiguous parts.
5. What vestiges of fœtal life are found in the right auricle?
6. Give the mechanism by which the entrance of food into the trachea is prevented.
7. In what particulars do the right and left lungs differ from each other.
8. Give the course of a uriniferous tubule, and its relation to the blood-vessels in its vicinity.
9. How is the fourth ventricle formed, and what are its boundaries.
10. What is the fissure of Rolando, and how can you determine its position in the living subject.

Chemistry—Prof. James G. Hyndman, M.D.

1. Upon what does the illuminating power of a flame depend?
2. What is N_2O, and how is it usually prepared.
3. How would you detect corrosive sublimate in solution?
4. Give a test for biliary coloring matters.
5. Give a test for arsenic which may be performed at the bedside.
6. Give best antidote for arsenic, and state how it may be prepared.
7. Differentiate urates, phosphates and albumen in a specimen of urine.
8. Describe one of the "Reduction Tests" for sugar.
9. What is meant by the acid and alkaline fermentation of urine?
10. What is the average quantity of solids excreted daily by the urine? Urea forms what proportion of it?

General Pathology—Prof. F. Kebler, M.D.

1. Causes of atrophy.
2. Definition and causes of embolus.
3. Describe a hemorrhagic infarction.
4. Changes that occur in vascular tissues during inflammation.
5. Process of union by first intention in soft parts.
6. Process by which a piece of dead bone is separated from the living.
7. Description including microscopic anatomy and varieties of epithelioma.
8. Microscopic appearance of a miliary tubercle.
9. Proof that the generation of bacteria is not spontaneous.
10. What is hepatogenic and what hæmatogenic icterus?

The following questions were submitted to the candidates for the position of interne at the Good Samaritan Hospital on Friday, Feb. 24, 1882:

Diseases of Children.

1. Causes for convulsions in children.
2. Differentiate between catarrh of the stomach, catarrh of the small intestine and catarrh of the large intestine in children.

Practice.

1. Locate the lesion in facial paralysis.
2. Give the morbid anatomy of typhoid fever.
3. Describe amyloid degeneration.

Ophthalmology.

1. Treatment of prolapse of the iris.
2. What is trachoma, and treatment.

Obstetrics.

1. Etiology of puerperal fever.
2. Under what circumstances would you employ forceps?

Gynæcology.

1. Give the forces that retain the uterus in position.

2. Diagnosis and treatment of cervical leucorrhœa.

Surgery.

1. Differential diagnosis of benign and malignant tumors.
2. Differentiation of scrotal tumors.
3. Differential diagnosis of alcohol and opium poisoning and apoplexy.

Dermatology.

1. Lupus, its forms, differential diagnosis and treatment.
2. Give the order in which the late cutaneous lesions of syphilis make their appearance and describe the changes (pathological) observed.

ALUMNI ASSOCIATION MIAMI MEDICAL COLLEGE.—The Annual Re-union of the Alumni Association of the Miami Medical College will take place at the College Building, Thursday, March 9th, 1882, at 3 p. m. The exercises will consist of the President's address to the graduating class. Response by Mr. Thomas V. Barkley. Class reports, addresses, etc.

C. P. BRENT, M. D., President.
W. H. FALLS, M. D., Secretary.

THE proceedings of the Medical College of Ohio Alumni Association will appear in our next issue.

Bibliography.

NERVOUS DISEASES: THEIR DESCRIPTION AND TREATMENT.[1]

The first edition of Dr. Hamilton's work, which appeared three years ago, received at that time an extended notice in our columns. The fact that that edition was so soon exhausted is a gratifying confirmation of the favorable opinion we then expressed in regard to it. So much has been contributed to the physiology, pathology, and therapeutics of the nervous system since the appearance of the first edition, that to bring the present one fully abreast of the times much new material has been incorporated. Nearly one hundred pages of reading matter and many new illustrations have been added, and the entire work shows evidence of full and careful revision. In the introduction, as in the first edition, rules for the systematic examination of patients are given, and the instruments of precision used in investigation of nervous diseases are fully described. The chapters which follow are replete with interest and instruction, and will afford useful aid in the diagnosis and treatment of a class of diseases, in regard to which the average practitioner is little informed—a class which often causes him much embarrassment and baffles his skill when a better understanding of the symptoms and pathological character would render diagnosis more easy and treatment more successful.

Our limits will not permit an extended analytical notice of the work, but we briefly refer to some of the changes in the late edition.

Important additions have been made to Chapter II. in regard to cerebral localizations.

In Chapter V. has been incorporated the advance in our knowledge of aphasia, or more properly, according to our author, *asemasia*, (an inability to indicate by signs or language.)

Quite an addition has been made to Chapter VI., in which are considered brain tumors and cerebellar diseases.

The most noticeable changes are in the chapters devoted to the diseases of the spinal cord. Portions of the author's prize essay have been used in the preparation of a new chapter (No. XII.) upon diseases of the lateral columns. In this chapter are described: 1. Infantile spastic paralysis; 2. Functional spastic paralysis; 3. Hysterical spasmodic paralysis; 4. Adult spasmodic spinal paralysis.

Chapter XIV., devoted to cerebral-spinal diseases, has been extended by the consideration of narcotism—chronic tobacco poisoning. The author, although no doubt himself a lover of the weed, rejoices that the use of snuff by women is happily becoming rare. Is it not a little selfish to wish to deprive women of that which he pronounces "one of the most valuable articles of comfort we possess?" After such a clear exposition of the dangers of its use, it seems to us strange that he should have been content with pronouncing against its use merely by women, spare nervous men and unskillful smokers.

Numerous other additions have been made, which it is unnecessary for us to point out. The dozen or more pages of formulæ, which were inserted at the end of the first edition have very properly been omitted from this. If directions for treatment are satisfactorily given, as they are in the book under notice, the intelligent practitioner will have no occasion to consult a book of prescriptions.

The typographical errors and some minor defects of the first edition have been corrected in this, and the book is worthy of the house by which it was published. We can earnestly and sincerely recommend it to the attention of the profession.

"DISEASES OF WOMEN, INCLUDING THEIR PATHOLOGY, CAUSATION, SYMPTOMS, DIAGNOSIS AND TREATMEMT.[1]

To those of our readers who are conversant with the proceedings of the London Obstetrical Society, this author needs no introduction; to others we can say, he has been in recent years one of the most active members of the Society, and occupies such professional position as should qualify him for the task he has here undertaken.

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[1] By Allan McLane Hamilton, M.D., with Seventy-Two Illustrations, pp. 598. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: Robt. Clarke & Co.

[1] A Manual for Student's and Practitioners, by Arthur W. Edis, M.D, London, F.R.C.P., M.R.C.S. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: Robt. Clarke & Co. Price $4.00.

A comparison of this work with the recent issues of the authorities in gynecology, is precluded by the avowal of the author that he has written for the "student and junior practitioner," and that his book is a "Manual."

For similar reasons no extended analysis of the work is required, but considered as an epitome of the opinions and practice of the masters, modified by the author's own experience, the book is worthy of much commendation.

Although smaller than some recent publications on the same subject, it is so systematically and succinctly written that it seems to lack but little practical matter of the more voluminous, and the especial care given to "Diagnosis" will much enhance the value of the book to those for whom it was designed. The introduction of the name of an author quoted, into the text is an agreeable novelty, and the absence of egotism is in happy contrast with some recent writers. While expressing these favorable opinions of this new candidate for professional confidence, justice requires us to say that we by no means endorse all the opinions and counsel of the author, and in some instances should be decidedly opposed to him.

A TREATISE ON DISEASES OF THE EYE.[1]

This forms the December volume of Wood and Co.'s Library of Standard Medical Authors. As being an original work from an American author, it possesses a value far above most of the other volumes of the series, which are merely reprints. As regards the work itself it certainly fulfills the promise of the author in the opening lines of his preface: "To condense into the limits assigned, the substance of modern ophthalmic knowledge." As a manual on the diseases of the eye it will take its place among the best of the recent text-books. Its arrangement is good, and in one respect somewhat novel. Recognizing the influence which disturbances of refraction and muscular function have upon other eye troubles, these are first discussed. Its style is clear; and the space allotted to the different subjects equally divided.

One would have thought, however, that Dr. Noyes, addressing as he yearly does a large class of medical students, and publishing his work in a series, which places it in the hands of general practitioners almost exclusively, would have embraced the opportunity of writing *the* work for general practitioners. Instead of covering the entire field uniformily and sending forth a work not materially differing from any other manual, he would have rendered more service had he discussed at length the diseases of the anterior structures of the eye, laying stress on differential diagnosis; very briefly discussed the diseases of the fundus; and finished with a fuller and more complete account, than can be found in any of the manuals, of the ocular symptoms accompanying general diseases; for Albutt, Gowers and Förster are found on the shelves of specialists and not in the libraries of physicians.

COULSON'S "DISEASES OF THE BLADDER."[1]

Twenty-five years ago, the work of Coulson on the bladder was considered the standard authority by surgeons and practitioners. A quarter of a century having passed without the revision of the work, it has naturally lost its place in current medical literature. Through the energy of an American publishing house it has just received a revision and now appears in its sixth edition as a handsome volume in Wood's Library of Standard Medical Authors.

The opening chapters of this volume are devoted to a minute consideration of the anatomy and physiology of the bladder and prostate. Careful attention is given to the details of the ways in which these parts are to be examined. In succeeding chapters abnormities of development and position, and wounds and injuries of the organ in question are extensively discussed. Considerable space is properly given to the study of the irritable, and the acute and chronic inflammatory conditions of the bladder. Nearly one-half of the volume is retained for the vast subject of vesical stone. The chemistry of urinary calculus, and its varied construction together with its causes and symptomatology are treated of at great length, and in a manner called for by the importance of the subject.

In chapters on Lithotomy and Lithotrity the advantages of the respective operations in specified cases are clearly set forth. Statistics are given to the most recent times, but are not of any more practical importance than statistics usually are, for they are far from infallible guides to the surgeon in the selection of an operation for the relief of a given case.

As in the remaining works of this series, the task of the publishers has been well accomplished. It is a source of regret, however, that the classic volume under review can not be obtained without subscription to the entire series of "Standard Library" publications.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Seventeenth Annual Meeting, Newport, 1881.

This pamphlet of 150 pages records the work done at the last meeting of the American Ophthalmogical Society, a record comparing very favorably with similar work abroad. Although appealing particularly to specialists, the general practitioner will find several articles of great interest. These are: "Anæsthetics in Bright's Diseases;" Congenital Paralysis of Both Abducens and Facial Nerves;" Loss of Vision after large Doses of Quinine." DeB.

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[1] By Henry D. Noyes, A.M., M.D., 8 vo. New York: William Wood & Co., 1881.

[1] New York: Wm. Wood & Co.'s Standard Library.

Original Communications.

THE BENEFACTIONS OF HOMEOPATHY.

A Paper Read Before the Licking County Medical Society.

By J. R. Black, M. D., Newark, Ohio.

The subject of homeopathy having been brought before us at our last meeting, it is an opportune occasion to examine some of the alleged claims of the followers of Hahnemann, to be benefactors to science and to humanity. If, in all questions of science, predjudice, bigotry and ill-will are wholly out of place, far more so are they in the department of medicine; for the object matter is not one of mere social relation, of monetary gain, of abstract doctrine, but of abating, or conquering human misery and anguishing pain; of imparting hope, health and renewed life to the despairing eye, and to the spirit sinking under disease. Viewed in this light, narrow minded bigotry is little less than a crime, as it trifles with that without which happiness is impossible, and the perils of disease remain unrobbed and unshorn of their malign power.

I may as well dismiss at once, any benefits claimed by the homeopathic sect, in the realms of anatomy, physiology, histology, organic chemistry, pathology, surgery, gynecology and obstetrics. In fact, I am not aware that a single discovery, a single invention, a single signal improvement, in any of these departments, has been claimed by the followers of Hahnemann during the last twenty-five years.

We all know that the recent advances in the knowledge of the nervous system, in pathological histology, in etiology, in the part that micro-organisms play in morbid processes, in anti-septic surgery, in the admirable applications by Sayre of the principle of rest in osseous diseases, in the wonderful success of Wells and Keith in ovarian tumors, in the indescribable amount of pain and terror abrogated in capital operations by lethal agents, in the great advancement of conservative surgery, in the invention and use of instruments of precision, such as the sphygmograph, the ophthalmoscope and laryngoscope, in the conspicious benefits of hypodermic medication, in the introduction, within in the time named, of the bromides, of chloral, of pilocarpine, of salacylic acid, and of a great many other remedies of acknowledged utility: we all know, I say, that every one of these, and a host of other minor improvements in the physician's means of triumphing over pain and disease, are all the sole products of regular medicine. Again, I say, as I did in the impromptu discussion of this topic, I invite any man to point out a single new discovery or new medicine for the cure of disease of conspicuous, or generally acknowledged utility, and well known as such to the laity of the civilized world, made by the homeopathic school. It has been claimed that aconite is such a remedy, but as I before stated its therapeutical utility was known and written upon by Storck long before Hahnemann was born. The discovery of the therapeutical qualities of nitro-glycerine has been claimed as due to the homeopaths, but I refer, in answer, all such to the admirable article by Ernest Hart, Editor of the *British Medical Journal*, No. 1002 (1880); and as for mercury, not a single new principle for the guidance of the therapeutist has been discovered and published by the homeopathic sect. All they have done is simply to emphasize what was known before as to its utility in small doses in some forms of intestinal disorder.

No! Homeopaths are not scientific cultivators. That is not their forte, nor their ambition. They are simply a sect in medicine, having for the pillars of their faith the dogmas of Hahnemann; for their capital in trade a name, claiming to overcome disease on the *similia similibus* principle and with infinitesimal medical dilutions. In place of seeking to improve science they devote nearly all of their intellectual ability and leisure moments to produce in the minds of the populace the belief that large doses of medicine are far more inimical to the human constitution than the virus of disease; that medicine is worse than a febrile zymosis which causes the body to feel as if in a flame, with racking misery and pain in every inch of its tissues, and all with the object of putting pence in their pockets. Of course, it should not be expected that any sect tied down by dogmas should progress, should add to our knowledge in any of the great branches of medicine above enumerated; their ambition Jesuit-like, being almost wholly devoted to the winning of patrons to their faith, and to make a success of their livelihood.[1]

While condemning adherence to the dogmas of any man, as a relapse into the dark age methods of knowledge and practice, as being nothing less than treachery to the free spirit of modern scientific investigation; I ask introspectively, have the followers of regular medicine any dogmas to fetter their minds or to cloud their judgment? Who, of all the great minds that have made it the pride of their lives to advance the success of the healing art—is it, whose dicta now rule our thinking? It is not any one man's opinions or sayings that influence our judgment—but that of all—that of the innumerable cultivators of medical science. Regular medicine has no scientific dogmas that render a man orthodox or unorthodox; he may advocate heroic doses, or, like Ringer, very small ones frequently repeated; he may advocate the use of vegetable remedies only, or of mineral, and be in good standing so long as he does all these things in a rational spirit, adducing the evidence to show or prove his views to be correct. But the moment he sets up his notions into a system of practice from which others must not deviate, and labels these views with a distinctive trade mark or name, he is playing the demagogue—the tradesman with the science of restoring healthy life. And let it be noted of homeopaths that to preserve their distinctive trade-mark, the judgment of its adherents must be kept within prescriptive bounds, else the sect would die out, and with it the name of homeopathic practitioner.

Is not such a scheme to bind men's judgment, to preserve a distinctive organization, and to secure patronage deserving of the most emphatic condemnation? Especially so as the object matter involves the health or sickness and the perpetuation or abridgement of the lives of our fellow beings. Entire freedom to administer large or small doses, to use only vegetable or mineral substances, to administer them on the principles taught by Hypocrates of *similia similibus*, or *contria contraius curantur*, or on a principle that cannot be understood, provided always, that it can be shown that thereby the physician is better able to remove disease, and in the very best manner, the mean-while making the touch-stone of all therapeutical methods experimental observation, without bigotry, prejudice, or sect bias. Are homeopaths free to do this, free to administer medicines on the principle of contraires, free to give large doses, when needful to produce emesis, to purge or to bleed? No! the moment they exercise this freedom in their daily rounds, they cease to be *ipse facto* homeopaths: they are virtually regular physicians, sailing falsely, under a trade-name or mark, and in order to make the populace believe that they do not cure disease as regular physicians do. Is not such duplicity, in order to maintain their sect, a mere trade-trick? a hypocritical pretension of differences when none exist; and let us say, only practicable by those of ignoble ambition and with consciences so hardened by the love of gain, that they are willing to deceive in order to profit by the sufferings of their fellow beings. If we believe a medical sect to be guilty of such disreputable conduct, are we not putting ourselves on their moral level by affiliating and counselling with them? On the other hand if we assume that some homeopaths are honest and sincere, of which there is no doubt, in the belief and practice of the restrictive dogmas of their creed, on what grounds can any sensible regular physician meet them in consultation; for is it not positively determined in advance, that agreement between them and us, as to the possible necessity for bleeding, or blistering, for the employment of emetics, or of active catharties, or large doses of any kind, is impossible? It is a pre-determined matter that homeopathic practice cannot take the wide scope of regular medicine on all these points, as the one is fettered by its creed, and the other is fettered by none. As before stated, the only and the crucial test of regular medicine is, what has the most careful and competent observation shown to be the best means of relieving pain, and of subduing disease? We can meet any educated man in consultation, who occupies this broad and catholic platform; for on it is there no pre-determined irreconcilability, and consequently with the hope of benefit to the patient, in place of injury through unseeemly wrangles and quarrels in the sick room. In brief, the true physician only asks, is the consultant free to adopt any course of treatment, be it of animal, mineral, or vegetable substances only, in very large or very small doses, as may be required? in short, any mode or any plan that promises the very best results in the overthrow of disease. The homeopath, if he is not acting the pirate by sailing under a false flag, is not thus free—therefore I, for one, eschew him.

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[1] Despite these familiar truths, we nevertheless find such a Journal as *The Popular Science Monthly*, aiming to represent the true spirit of recent science, admitting in Oswald's papers a defense of homeopathy and an attack on regular medicine.

There is a species of transcendental sophistry connected with the doctrines of Hahnemann's followers, that deserves a passing notice. It is claimed that the attenuation of a substance increases its potency—in fact, that the one holds to an almost incredible degree, a definite relation to the other. Now, every medical observer knows how difficult it is to determine whether a medicine given to a sick person produces the changes of the disease that follows, or, whether they are owing to the *vis medicatrix naturæ*. It is this difficulty that has made trite the very familiar fallacy of "*post hoc—ergo propter hoc.*" A little infusion into our thinking of the good old quality of common sense, will, I opine, soon clear away the transcendental mist that hangs about the doctrine of enhanced potency which the attenuation or dilution of medicines is claimed to produce.

It is, in advance, a conceded point among all rational observers, that the rapidity of the action of some medical agents, is, in not a few instances, greatly enhanced by small and oft repeated administration. In other words, in many cases, and for some purposes, if medicine is given in too large doses, and in a form very concentrated, its imbibition is thereby hindered, and its therapeutical action therefore delayed, or it may be prevented in toto. That such is true, and to a degree insufficiently apprehended, is freely conceded by all those well versed in the late disclosures of the physiology and the dynamics of organic life. But this is a very different thing from the claim once made to me by a homeopathist in reference to the remarkable potency of the 30th dilution of copper. I told him that he was not mathematician enough to calculate what part of a grain that was—at which he sat down, with paper and pencil, but had to acknowledge himself foiled; yet, the effect on the human system of that dilution, he maintained was none the less real and true. Now, it is this sort of transcendental nonsense of which I desire to speak. Let this broad principle of physics be our guide to the truth,—*that the amount of energy evolved by any substance taken into the living body, is in direct proportirn to its amount.* Every rational observer will admit that the amount of energy, *sui generis*, which any of the following substances are capable of producing in the human body, is proportioned to the amount brought to act upon it; such as aloes, morphina, quinia, strychina, jaborandi, etc., etc.'

But homeopaths claim that, in some mysterious way, small doses abound in more energy than large ones. I have adverted to the fallacies attendant upon inferences drawn from the administrations of medicines in states of disease. Let us, therefore, go outside states of disease, where such fallacies may be fairly excluded, to see if there are any points of analogy in the action of other substances on the animal economy, to support the theory that there is an increase of potency by infinitesimal dilution. All are familiar with the peculiar effects of alcohol on the nervous system. According to homeopathic doctrine, ten drops of alcohol, largely diluted, ought to be far more potent in producing these effects than ten gills of the strongest undiluted brandy. The same ought to be true of some other like agents, such as tea and coffee, and if so, it would be well for our hosts at restaurants and hotels not to be at all sparing in water, as they usually are not, in making up these drinks, for thereby their soothing, grateful effects will be immeasurably enhanced. Is not this too utterly utter for any sane, civilized esthetic to swallow?

If we turn to the effects of disease producing agents, it will be found that dilution diminishes potency, and concentration increases it, precisely as medicines usually do. Take the example of sewer gas; largely diluted, it is harmless; less diluted, it produces sickness; concentrated, it produces instant death. The same is true of carbolic acid, carbonic oxide, and, indeed, of all malarious exhalations.

To physicians inclined to ignore pathological anatomy—inclined to disregard the classification of symptoms into specialized forms of disease—inclined to little faith in therapeutical results;—disinclined to laborious study, and inclined to the adoption of an easy thumb-rule guide, for the administration of remedies, homeopathy is the true haven for them to rest. For all of a skeptical turn, sugar pills are singularly appropriate, inasmuch, if they are not sure they can do any good, at least they cannot do much harm.

But in preserving this lethargic consistency, and leaving the cure of disease, almost wholly to *unassisted nature*, they should remember to be very modest in their claims, and not assume credit and requre pay for the work that nature accomplishes; and which, may be, they have gone once or twice in a day to behold, the meanwhile dropping a few pellets, or shadowy attenuations at her shrine. Yes, it is an easy, almost mechanical thumb-rule business, to practice homeopathy.

You have only to note the symptoms, and pounce upon a few remedies that are known to beget similar symptoms upon the human body.

For a dilated pupil, give belladonna; for a contracted pupil, opium; for clonic spasms, strychina; for insomnia, tea or coffee; for delirium, alcohol; and for hydrophobic patient, a hair of the dog that bit him.

How grandly simple is all this compared with the scientific method, as follows: Ascertaining the family history, as showing the predisposition or diathesis, the age, sex, occupation, and modes of life, the etiology, and first beginnings of the malady. Objectively the frequency of the pulse, the state of the eye, skin, and tongue; the results of auscultation and precussion, and the changes of structure which these imply, the examination of the secretions, chemically and microscopically, the variations of morning and evening temperature, and the general expression of the patient; and subjectively, the precise kind of suffering endured, whether general, local, dull, constant or paroxysmal, the state of the appetite, thirst, rest and strength, and when all these are duly ascertained and weighed, to select from a list of several hundred medicines the one or ones that has an elective affinity for the structural part or parts chiefly diseased, and adapted the best of all to aid actively and perceptibly, the vital processes in throwing off the evil influence. The physician who does all this thoroughly, conscientiously, and efficiently, has before him a world of complex intellectual labor, compared with which, the single *simlia similibus* rule is as the play of a child.

Sir Erasmus Wilson has given fifty thousand dollars to the University of Aberdeen as a foundation for a professorship of pathology.—*Medical Times.*

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of February 13th, 1882.

A. E. HEIGHWAY, M.D., *Chairman pro tem.* W. H. WENNING M.D., *Secretary.*

Reports of Cases.

Carcinoma of Tongue.

Dr. Ransohoff reported this case on account of the importance of diagnosis from syphilis. A man of 65 years of age had for the last three or four years been suffering with a scaling of the tongue, the dorsum was excoriated rather than ulcerated, the infilteration circumscribed, no enlargement of the glands of the neck. A consultation was held with another surgeon who was of the opinion that the lesion was of syphilitic origin in the form of a gummatous tumor. As it was thought that nothing would be lost by waiting a few weeks, the patient was put under small doses of bichloride of mercury with iodide of potassium. The gums became swollen and salivation set in; also the glands enlarged. The speaker removed a small particle of the tumor and gave it to Dr. G. W. Walker for microscopic examination. The doctor, who is known as a skilled microscopist and pathologist, stated that it was an epithelioma. The speaker then concluded to operate but previously prescribed liq. sod. chlorinat. for a mouth wash. He attempted to remove the tongue with the wire ecraseur, and, although he tightened the loop very slowly the wire broke twice; he then resorted to Chassaignc's chain ecraseur and proceeded with the utmost caution until he removed the tongue without any loss of blood. He then dressed the wound with iodoform and the patient made a good recovery. After this he prescribed arsenic in the form of Fowler's solution to prevent a recurrence.

Dr. Cleveland objected to the statement of the reporter of this case that it did not matter much how long we waited for an operation. If epithelioma is first a local and then a constitutional disease, it is of great importance whether an operation be made early or deferred for some time. Where the constitutional effects have appeared an operation cannot promise that success as when the disease is as yet only local. The salivation proved that the subsequent enlargement of the glands was due to nothing but the effect of mercurialization, and, therefore, syphilis was excluded. He also approved of the treatment by arsenic but could not help observing that there is an incongruity in the expressed nature of the disease and its treatment. Cancer is at first only local and yet we give arsenic for its constitutional effects, which shows that its action is not yet clear.

Dr. Hottendorf remarked that he lately saw a case of cancer in the rectum which was at first not recognized by the physician, who, under the supposition that it was piles prescribed sulphur, etc. The patient consulted Dr. Dawson who pronounced the disease a scirrhus and advised an operation, which the patient refused. This man then consulted a notorious "cancer doctor" on Fourth street, who applied a strong caustic, presumably Vienna paste, or cautic potash, which is an ingredient of the paste. When the patient applied to the speaker he found that a cancerous induration of the bowel with large pieces of the rectum, including a portion of the sphincter, were burnt away. He made injections of alcohol into and around the cancerous substance without any effect. Thiersch, of Leipsic, recommends the injection of phosphorus (1 gr.) into the tumor followed by the application of a pledget of cotton saturated with Monsell's solution. So far this treatment has also proved ineffectual. The only thing the speaker could do with his patient was to prescribe morphia to relieve pain.

Dr. Ransohoff in reply to Dr. Cleveland's criticisms, said that if syphilis be suspected it is always best first to try anti-syphitic treatment, as the efficiency or inefficiency of this treatment will assist in establishing a positive diagnosis.

Complications in Small-Pox.

Dr. Drury reported the following cases: The father of a family had confluent small-pox but recovered. Two children, three and five years of age respectively, took sick of which the first had died when the speaker was called in to see the second. Both children had been vaccinated, however, unsuccessfully. The child when seen by the speaker had bronchitis, obstinate constipation and a papular eruption, with an aborted pustule at one or two points; respiration was rapid and pulse so frequent as not to be counted. The speaker thought that in addition to the small-pox, the child suffered with meningitis, either a complication of, or superinduced by the variolous poison. There was a history of meningitis in the family before, both children having had slight attacks previously. The child was treated with laxatives, injections, etc., but died at 5 p. m. the same day. Was the meningitis a coincidence or due to a suppression of the variolous poison?

Dr. Cleveland remarked that although he had no such a case in the present epidemic, in 1876 he found meningitis a not uncommon complication. He believed that the poison of variola could act in this manner by attacking the brain; nevertheless, meningitis might also have been a complication.

(As no further remarks were made upon this case the chairman suggested that a discussion of the subject of small-pox generally would be of interest at the present time.)

Dr. Cleveland said he had a case at present which illustrated the protective power of vaccination. A woman who was nursing a babe took small-pox. He immediately vaccinated the child, fortunately with success. When the pustules came up he again punctured the arm with the lymph, hoping thereby to protect it further. So far the child had not contracted the disease.

Dr. Hottendorf remarked that a certain proportion of the community entertains the belief that when vaccination is practised at the present time variola itself is introduced into the system by vaccination. One week ago he vaccinated eleven out of twelve persons. The remaining one refused to be vaccinated. The next day he called at the speaker's office and showed the characteristic eruption of small-pox. He (the speaker) was very glad that he had not vaccinated this person, because the latter would certainly have attributed the disease to vaccination. As he had read lately of the germicidal properties of the bichloride of mercury he concluded to try it in $\frac{1}{24}$ gr. doses (gr. i to ℥ iij. of sherrywine—dose one teaspoonful) and he thought it might have a good effect in abating the virulence of the poison. The patient was sent to the hospital and is now improving.

Dr. Wenning remarked that he considered small-pox a self-limited disease, and therefore the poison will expend itself—do what we may with germicides—when it is once in the system. It was not this point, however, that he wished to discuss, but the protective power of vaccination, as he recently had five cases in one family, where it was well illustrated. He agreed to the previous speaker's remarks as to the great unwillingness in the community to be vaccinated during the prevalence of the small-pox, and the disrepute into which vaccination falls is due to the fact that people wait until the small-pox is already in the family, or the person to be vaccinated is already in the first stage of the disease; should small-pox then break out the blame is thrown upon vaccination. About one week ago the speaker was called by a young man to visit his sister, a young lady lady 18 years of age. The messenger himself had a varioloid eruption on his face which he attributed to a derangement of the stomach. The sister, who had been once, though unsuccessfully vaccinated, took small-pox in its worst form. The next day the speaker proposed to vaccinate the rest of the family. He found, however, that two more members of the family, boys four and eight years of age respectfully, unvaccinated, were already down with the disease. These of course he did not vaccinate. Two other boys, ten and fourteen years of age, he vaccinated successfully as well as the father, whose vaccination, however, did not take. The oldest son, a young man of twenty, refused to be re-vaccinated. This man was also taken down with varioloid in a few days. The first patient visited, the young lady, and the two boys died in three successive days. The second son (the messenger) and the oldest son recovered and the rest escaped. All that died were unvaccinated; those that had the varioloid were protected by a primary though not a secondary vaccination, and those that escaped altogether were protected by a secondary vaccination.

A New Purgative.—Dr. Rabuteau has experimented with sulpho-phinate and sulpho-crepylate of soda, and has obtained good purgative effects from both doses of 20 to 26 grammes (ʒv to vi) will induce seven or eight stools a day. These salts are eliminated without much change, and their use is advocated in fetid diarrhœa.—*Med. and Surg. Reporter—Contours Medicale.*

Alumni Proceedings.

ALUMNI ASSOCIATION MEDICAL COLLEGE OF OHIO.

The seventh annual meeting was held Wednesday, March 1st. The annual address was delivered by Dr. Geo. B. Evans, of Dayton, O., on

The Relation of Insanity to Modern Society.

MR. PRESIDENT, GENTLEMEN, ALUMNI OF THE MEDICAL COLLEGE OF OHIO: Allow me to congratulate you that at this annual meeting of our society so many representative men of the College are able to gather for social intercourse, intellectual enjoyment and interchange of professional thought, ideas and courtesies. We miss the cordial greeting of many who have met with us in the past. Some have passed through life's great tragedy and fallen before the grim power against which they had waged for years a successful conflict; their success is now our heritage and their achievements our pride. Others weighted with years and worn with toil, disabled from active service, rest upon their laurels, honored and beloved by those they have served. They may not partake of our present pleasures and yet are by no means indifferent to our success. Others again, held by the common conflict, find no time for rest from this grandest labor that engages the energies of man. And still we are a goodly company. I see before me men who have grown gray in the service, veterans whose brows are wrinkled by care and toil, but whose eyes beam with consciousness of work well done and victory in closest and hardest contest. Those who have long stood as leaders in and teachers of medical science, whose opinions command attention and whose "dicta" carry the conviction of authority; minds strengthened by study, fortified by extensive experience and matured by closest research and thought, may they yet see many years in the enjoyment of well-earned laurels. Most of us, however, are in the active stage of life, have well entered the field and the work is before us. For us the mark is to be made, the victory to be secured and the prize to be won. In our care shall be the honor of our chosen profession, to us be committed the interests of diseased and suffering humanity, upon us devolve the weighty cares of the Doctorate. It remains for us to answer what preparation will we bring to sustain this honor? What sacrifice make to secure their interest? What manhood, what consecration bring that there be no failure under these responsibilities? Acknowledging the honor conferred upon me in being selected to address you at this time, and very conscious that the task would be much better and more acceptably performed by others of riper years and richer experience. But having accepted the appointment I ask your attention to and consideration of such thoughts as I have found time to pen at hours snatched from active professional duties at the Asylum where my lot has been cast.

Insanity the noisest of the neuroses. A subject that has been so long and painfully before the American people in the late criminal trial. The prolific source of violence and so constantly sought as a shelter from the penalty of crime. Too often the odium of our profession in its connection with the witness stand, the broad fields where hypothesis has luxuriated and science so often failed. The saddest of all the sinless affections of humanity, the unburied dead whose presence casts a saddening shadow in homes where all else is bright and pure and happy. The relative extent of mental disease in ancient and modern society is a problem of interest. The study of it is one mode of approaching the consideration of a most important question, not merely for medical psychologist, but in consequence of its ultimate bearing upon the prevention of insanity and for the public also. Whether among the people of the higher civilized portions of the globe at the present day more persons do or do not become insane than among the nations of antiquity. That the forms of disease to which the human race is liable may vary in character and intensity in different ages and in different nations will not be disputed. On a general review of Ancient Egypt we observe that the people attained to a higher rank of civilization and that there certainly were not wanting some of the recognized causes of insanity, especially drunkeness. Roman and Grecian writers inform us that with the increase of civilization and luxury the habits and manners of the people changed from what they in the main were during the period of early Roman history. How bad and how base did Horace consider his own generation, though he did not think it had reached the lowest depth of degradation, for the downward current was so strong that he contemplated the sons of that generation would be guilty of crime unknown even to it. Of the "golden age" it may be emphatically said that "all is not gold that glitters." It is claimed that men never lived under such a crushing sense of degradation, never did they look back with more regret, never were the vices that sprang out of despair so rife, never was sensuality cultivated more methodically. And thus it is every age, every year, adds to the number of our insane. With all our grand country and noble goverment, with all our art and learning, with all our advance in medicine and surgery and in fact in the advancement of all the sciences we stand in *awe* in the presence of insanity. Surely there is a lion in the way and his shackles are loosened. "Ah! vision too fearful of suffering humanity on the brink of a mighty abyss! Vision that didst start back—that didst roll away like a shrivelling scroll from before the fire, racing on the wings of the wind; why is it thou canst not die? Dread spirit of the lost and forever damned, demon of darkness and blackness, imp of horror and hell, why ever returnest thou and sheddest thy sad funeral blights upon the gorgeous mosaic of dreams?"

Must we say that liberty and education and industry and religion favor the outgrowth of insanity? Civilization is, it must be admitted, a cause of insanity. But when I say this I do not mean that if we take one man, educate and refine him, and take another man, make him a laborer on a miserable weekly pittance with a large family to maintain, that the former will degenerate into insanity or imbecility more readily than the latter; but I say that a laborer of a civilized community is often more exposed to unfavorable psychological influence than the member of a wholly uncivilized tribe; and that the more favorably placed educated man is in greater danger than the "untutored savage." It is simply the penalty which superior organisms have to pay for their greater sensitiveness and susceptibility. Ever since Germany had a compulsory school law there has been an increase in the number of inmates in the asylums in that country. The proportional increase of insanity is greater than the increase of population in France, Italy, Belgium and Denmark. England has an increase in population one and one-half per cent., while her increase in insanity has advanced to three per cent. Statistics will show an increase of three and one-half to four per cent in the United States. Health of body has in all times been regarded as essential to the best balance and culture of the mind and the most effective application of its activities to the concerns of the life, whether educational or practical, whether in the realms of philosophy or the lower but not the less important plane of manual labor. This is true notwithstanding the fact that there are notable exceptions where great intellectual activity and application have been conjoined with feeble physical development and even disease.

Our subject embraces all that relates to the development, exercise and maintenance of mental activity in individuals, communities and nations, and must therefore be considered from an individual, social and national point of view. It involves education, social culture, religion and national life and begins with man at birth. It consists in that general training which will most perfectly and harmoniously develop the body and the mental faculties and prepare man for the duties of life.

First, we must look at man as he was born, his utter helplessness, his passions, his needs, physical and mental, and his social, moral and spiritual wants and then devise some scheme for his development. Harmonious intellectual and moral culture is imperative in order that man may be able to recognize not only his own needs but his relation to others; that he may, while taking care of himself, be able to see that he forms an integral part of a social organization absolutely essential to his own welfare. That mental activity is highly favorable to physical health and development, when systematically directed into useful channels, need hardly be argued in this day. It was formerly a sort of proverb that "one of the rewards of philosophy is long life." The ancient philosophers pursued their studies and imparted their instructions largely out of doors amid the varied objects of nature. The amount of physical exercise taken in the open air was a remarkable feature in the life of antiquity, even among the scholars, and we have among them numerous examples of great longevity in men of intellectual pursuits, Homer, Pythagoras, Xenophon, Sophicles, Democratus and others reached the age of ninety and upwards, while the majority of such men passed the limit of three score and ten. In the early days of this republic, with simplicity and plain living, we find the same rule holding good. Chief Justice Marshall and Thomas Jefferson reached 84, Benj. Franklin 85, James Madison 87, and John Adams 91. All these men certainly had not only vast intellectual labor to perform but great burdens of care, anxiety and responsibility to carry and often serious privation to encounter. Ancient and modern gymnasia bear witness to the sense of the importance of combining mental and physical culture. Mental culture exerts a powerful influence in developing the symmetry of physical organism, the tone and expression of the face, the organs of special sense and harmony of the co-ordinating movements of the whole body. One can see this illustrated in our common schools at any time. At the sound of a musical note, or the word of the teacher, the whole school instantly responds. The bodily organism soon conforms to the habit of attention and to the systematic mental training, and awkwardness and dullness are soon transformed into gracefulness, courtesy and intelligence. This fact will apply equally well to nations. If we were asked the secret of the physical prowess and conquering power of the Roman people for a thousand years, we should answer, it was military education and discipline. The same truth was illustrated in the German armies of Frederick William in the Franco-Prussian War, and in the recent War of the Rebellion in this country. No reflecting man can fail to see that the attention given to education all over the world is a most significant fact in the history of this period. That education in some degree shall be universal seems to be a common sentiment. While you are engaged in developing your physical and mental being you should be mindful of the fact—

"If thou to health and vigor wouldst attain,
Shun weighty cares, all anger deem profane,
From heavy suppers and much wine abstain.
Nor trivial count it after pompous fare,
To rise from table and to take the air.
Shun idle noonday slumbers, nor delay
The urgent calls of nature to obey.
These rules, if thou wilt follow to the end,
Thy life to greater length thou may extend.
Shouldst doctors need? Be this in doctors stead,
Rest, cheerfulness and table thinly spread."

And now, while standing here, with before me this large audience, I can't but think of this body, the crowning glory of God's creation, with its acids and alkalies that defy the skill of chemists to prepare, its ligaments and tendons, its muscles crossing and interlacing but never interfering, answering to every impulse of the nerves; its delicately adjusted valves and filters; its pump for blood and its bellows for air; its sounding cords; its crystal lenses and cameras; its system of nerves reaching every fibre, yet working all together, swift to obey the channels of all our sensations, the causes of all our movements. I stand in amazement and wonder at its perfection and beauty. But, my hearers, how much more do I wonder when I see that crowning, that central organ, which is so mysterious in its workings, so absolute in its command, so problematical in its structure, that organ which is a throne for the invisible and immortal part of man, cast down, dethroned, and reason snatched away by that awful demon insanity. Madness now sits upon the throne and all around her is darkness, misery, disease and death. King Lear in his trouble exclaimed, "The tempest in my mind doth from my senses take all feeling else, save what beats there."

"O fool that I am, I shall go mad. Driven with contumely and scorn from that shelter in the affection of his child, which he had fondly expected to find, he goes forth at night and braves the pitiless storm without and within, and there in his loneliness and darkness gives vent to his feelings.

"O, let me not be mad, not mad, sweet heaven! Keep me in temper. I would not be mad!"

The study of insanity has been pursued under difficulties and obstacles, more numerous and serious than have surrounded investigations in other departments of medicine. A potent reason is found in the fact that a symptom of the disease, *mental aberation*, was for a long while mistaken for the disease itself. Investigations in this direction naturally fell into the hands of the theologian, by whom insanity was thought to be a disease of the moral nature, that they were possessed of devils, or the subject of witchcraft, and these were synonyms for sin. Speculations of this kind accomplished little for science and still less for the insane. The treatment founded on these theories consisted of appeals to conscience, or to reason, which was already involved, or else to banishment from the family circle.

There was in this only mystery to the common mind and to the professional mind nothing tangible or satisfactory, and it was only when the real nature of insanity was truly appreciated that the light of truth dispelled the darkness of former superstition and error. The recognition of the theory that the brain is the instrument of the mind, and that everted mental manifestations are due to disease of that organ, was the great step of progress in the study of insanity. It is an undeniable fact that the cause of all insanity, the reason why the mind is dethroned and her sceptor cast down, as of other diseases, is to be found in the neglect, as in the direct or incidental infraction of the established laws of physical or mental health. It may arise from the physical side of man's nature, as from some form of ill health in which the nutrition of the brain is affected, or from the mental side when excessive brain action produces the same result.

In the ambition to become rich, to acquire power, to gain prominence in scientific circles, the plainest laws of existence are too often transgressed. The claims of the body, especially the brain, for repose, for sleep, or even to repair the waste of ordinary or excessive exertion is disregarded and the penalty is certain.

The folly of this course is strongly pointed out by a recent writer in the following well-chosen words:

"This marvelously constituted brain—men may ignore it, despise it, degrade it, defile it, but they do it at their peril, and let them remember that whether the result is or is not actual madness, they will pay the penalty sooner or later in some form or other. They will not be permitted to escape the consequences of the infraction of the laws on which its integrity depends."

Let me commend to you the study of enthusiasm and eccentricity and genius in the people among whom you practice and you will find it impossible to make a careful canvass without recognizing the fact that genius, eccentricity and enthusiasm are developed from the same soil as the neuroses, and imply an unbalanced nervous system. Enthusiasm is a disease which rides and destroys its victim. Enthusiasm which is prominent in the numerous religious revivals, and which was manifested so strongly during the temperance crusade of 1873, shows its tendency towards nervous disease, hence the increase of insanity immediately connected with and growing out of special manifestation. Many a poor woman afterwards and in consequence thereof took up her abode in an asylum. Certainly you have not failed to notice the fact that those people we term *cranks* and who come so prominently before the public have at some period of their existence manifested some sort of enthusiasm, eccentricity or genius. Napoleon the great, was very eccentric and ambitious only of power and honor, and a glance at his lineage will repay us. His father was intelligent, honest, and of a well balanced nervous system, but his mother was eccentric and quarrelsome; she cultivated the detestation of one of her daughters and a a passionate partiality for one son to such a degree that it suggests insanity. He was always engaged in petty quarrels and fickle passions. He seemed to think only of grandeur. All these, with his amazing vanity, show a powerful but at the same time a diseased mind, which was fast going to decay when death overtook him at the Isle of St. Helena.

What are the essential moving elements that destroy this noble work of God?

A powerful predisposing cause of insanity is heredity. Physical, mental and moral peculiarities are transmitted from parents to children and are a prolific source of evil and suffering. Each of us bear the stains of two hundred generations which have gone before us. For these many years sin and disease have driven the plow-shares through the human frame and mind. Ages have sown the storm and we are now reaping the whirlwind. We entered this world with a cry of pain and we will leave it with a shuddering groan of anguish. This world is full of sorrow and physical and mental wrecks have ever been cast up by the waves of fate on the shores of time. Thousands turn their eyes upward to the stars of the dark sky of destiny asking why they were ever sent into existence.

Many men, through no personal fault, find it impossible to attain a correct standard of mental, moral and physical manhood. From the cradle they have been bound with chains which were forged for them generations ago and which never were and never will be broken. Scrofula, consumption, syphilis and insanity in some form or other have sown their vile seed in human soil and the ground has produced abundantly. Yea, a hundred fold. These roots have struck deep into the human mind and their growth has overshadowed and choked the fairest flowers of the human mind. The young learn more from example than precept, therefore it is essential that their early years should be passed within the sacred precincts of a home surrounded by the healthful influence of parental affection. But American fathers are strangers to their children. They know nothing of their childish hopes and aspirations, they give them no sympathy and receive in exchange distrust instead of confidence. It is generally a hasty good morning, a few minutes at meals and a weary good night. This is all they can spare from the absorbing pursuit of money getting, social distinction and political or professional popularity. They are far better known on change, in their county offices, and in the club room than at home. Of the mothers we would speak in all charitableness. Some of them, with their true womanly spirit and fortitude, take upon themselves the burden so thoughtlessly cast aside by the father and with that large faith and hope and the self-sacrificing love which is only found in the maternal heart, throw around their children the saving and healthful influence so essential in early life. American parents fail to shape or guide the destiny of their children. The grow up under the evil influences that abound in our cities, with shattered nerves, ill regulated desires and unbalanced physical and mental developments, an easy prey to the vices, disappointments or anxieties of life. The land is full of intemperance, pauperism and crime; criminals are in every prison, idiots begotten in drunkenness, lunatics springing from every form of vice, hospitals overflowing with every form of disease.

"Sensuality is the great scourge of mankind, it is the mother of disease, the nourisher of crime, the burden of taxation and the destroyer of souls."

"It is a swamp rank with weeds and like an old castle, damp with deadly vapors and full of crawling serpents. It is thick with snares and lurid with deceptive light."

"Well might it be said that this morass is the source of a mighty river, which gathers into its bosom and increases in might and volume as it sweeps past the shores of nations and deepens and widens as it flows with a low solemn moan into the eternal night of death."

How we love to think of those old gray headed men and women, who have passed through this ordeal and whose career have pledged us a noble life, and with not very far fetched imagination, though our eyes be blind with tears, we never tire of gazing back into the past and behold those brave men and beautiful women of our ancestry as they sit grouped in twilight upon the shore. They fought the hard fight, withstood the trials and temptations and disease and sin, and are now at rest enjoying the fruits and the rewards prepared for them.

Money getting is the crying sin and is characteristic of the American people. The world brands us as worshipers of the almighty dollar. We make a god of hard unceasing labor. We eat fast, work fast, live fast and die fast. Many are old before they are young. Many of us sleep too little. This is especially the case among the working class and is not confined to adults, their children are called from their beds and kept steadily at their task for fourteen or fifteen hours before being allowed to go their rest. Many of them have never seen the inside of a schoolroom, but are kept at work in factories of various kinds. Such habits formed in childhood extends into manhood and becomes fixed and after the lapse of time it is difficult for the brain to change its custom. The little one soon becomes wakeful or has morbid dreams which are often prodromic of disorders of the brain and of the nervous system and have long been recognized by medical writers as worthy of consideration. They are like delicate clouds in the sky, they indicate to the practical observer the coming storm.

"Sleep that knits up the raveled sleeve of care,
The death of each day's life, sore labors bath,
Balm of hurt minds, nature's second course,
Chief nourisher in life's feast."

Loss of sleep may vary from a simple state of wakefulness to one of persistent sleeplessness. In a condition of health sleep naturally follows activity. Action and repose being the physiological sequence. From disturbance of the circulation within the cranium there results an irritability of nerve tissue which may prolong the existing cerebral excitement. In this state thoughts follow each other in quick succession, past events of life are recalled with painful minuteness, or plans for the future present themselves in all the varied forms and combinations of which the imagination is capable, or again the most trivial matters demand and enforce attention in spite of the strongest effort to seek repose and to bound the mental horizon with the one thought of sleep. At last after many efforts and perhaps from sheer exhaustion sleep visits the weary one, but it yields to ready waking, and the morning light finds the sufferer unrefreshed and unfit for the labor of the day.

Some of us have drank of the cup of life deeply, yea, to its very dregs, and now to us there is nothing new under the heavens. We have tasted of all the fruits of life. We have partaken of everything that has been placed before us. We have sought out every sensual joy and we are disgusted with ourselves. Weariness creeps into our blood and soon dries up the great fountain of desire. Disappointment now comes upon us with a crash that is keenly and severely felt. We sink perhaps under the loss of property, or of dear and near friends, or perhaps we have built castles in the air, the plans of which we thought were matured and cherished them dearly, but these have fallen over and we abandon all hope.

Now who among us does not live more in the future than in the present. Oh! this illusion is magnificent! Does not fancy live to cheat the heart and weave gorgeous tissues to hang upon that horizon which lies along the years to come? Now blot out our future stretch, a pall over every one of our fond desires and cherished hopes and those darling schemes, sink us into despondency, take our worldly goods, rob us of parental affection, yea, make us to feel in old age the full meaning of the term poverty, leave us naked and disgraced, and is it a wonder that yonder asylum doors stand wide open for us and lastly shuts out forever better days?

As I have trod the long and echoing halls of the Dayton and other asylums I have thought of how they had been associated with everything that is darkest in human nature and human destiny. I have thought of the savage triumphs of enemies, the inconsistency, the gratitude and the cowardice of friends, and of all the miseries of fallen greatness, blighted fortune and fame.

I desire just here to impress upon the minds of those just gone out of these walls to battle with the world, to success, to honor, fame and perhaps to fortune, that there is a prize to be gained, a goal to be reached, a race to be run; but there was never a greater falsehood told than that of all men being created equal. Persons are so dissimilar that to impose upon all the same burden, is to break the backs of some while others never feel the load and run with swiftness and success the race set before them. The road to knowledge for some is a weary and long one and is seldom bordered with flowers and fountains, nor shade trees with which to cheer, refresh and under which to lie down and rest. Too many are apt to be caught by the glare and glitter of honor and fame and vanity; to imagine that a high degree of scholastic training is the golden key that unlocks the diamond lock to precious things.

Now all this hard work is done at the wrong time of life, at a very critical period, when the forces of the system should be largely consumed in physical development. The muscular and alimentary system suffer, while undue attention is being paid to the nervous system.

The brain is over-taxed, and soon every part of the animal economy begins to groan, and finally crushes under this awful strain. The mischief is done; the functions of the brain are destroyed. Soon they refuse to work; then that general condition called nervousness presents itself, which is often the forerunner of insanity. Every school-girl dreams of a marked career, of a beautiful home, of gorgeous attire, of foreign travels, of castles in Spain, and the full fruition of every fond desire.

Stirred to fever heat by the latest novel or sentimental song; nor is it a wonder that all these fancies and ambitions find a resting place in youthful minds. What is the fruit of all this grand eloquence about making our lives sublime and leaving "foot-prints on the sands of time." This country is full of sour, disappointed men and women who can no more grapple the prize of life than they can read the language of the stars above them. "They are like an old, chronic hospital, with broken-legged intentions, abortive hopes, blind regrets and desires." They will never wear the gorgeous uniform, perform the noble deeds, nor win the sweet affections they dreamed of.

These, my professional friends, are the most fatal destroyers of peace and prosperity and the surest road to disease, insanity and death. I have thus attempted to sketch briefly and concisely the most common and prominent of the initiatory changes both physically and mentally which precedes and points to an attack of insanity, and also to note some of the circumstances which may obscure early recognition of the disease.

It is not claimed that the list is complete or that the various combinations in which the symptoms exists have been presented. These will differ much as to the history of cases under investigation. They will, however, be found to be naturally classified under the divisions, employed disturbances of function of sensation and of mental states. The manifestations of the mental disturbance, both in subjects and direction, present the greatest diversity, and are as various as the ages, the educational advantages, the social circumstances and surroundings of individuals, or the troubles or misfortunes with which their lives may be checkered.

If in some of the descriptions of mental changes the boundry line of sanity has been passed, it must be borne in mind that the border land between sanity and insanity is sometimes shadowy and indistinct, that it may be crossed and re-crossed before the mental state becomes finally certain. Delusive ideas of to-day may be dissipated on the morrow only to be renewed with greater force, and with more full control, till at last they are received with a full belief in their reality.

It is during this state of uncertainty and doubt, that not unfrequently the person has an appreciation of his condition, realizes the fact that he is becoming insane, and voluntarily seeks relief from his troubles. This period promises the best and speediest results to judicious mental treatment, hence the importance of its full appreciation by the physician. Preventive medicine is the highest department of the art of the physician; prophylaxis, a higher aim than therapeutics. Insanity is an awful disease, and no one knows how soon he may fall a victim to it. The necessity of taking timely notice of slight but significent symptoms of mental aberation, although not assuming a dangerous form, not only for the sake of the individual but for the protection of society, receives a melancholy proof from time to time.

It is to the medical profession that the nation is looking for help.

The doctrine of the German psychologist, who promulgated the notion that insanity arises from sin in all cases, has happily passed into well-merited oblivion. This disease which flourished in civilized states of society need not have the effect of making us cast a longing, lingering look upon the savage life of our ancestors; but resolutely strive to remove or at least to lessen the abuses of the glorious gifts which civilized life has created, to moderate luxury and endeavor to reduce instead of multiplying the artificial wants of society, and by raising the social scale, narrow at the same the distance between the rich and the poor.

Let us teach and practice that plenty of sleep is essential to a well constituted intellect. Let not him who rejoices in his almost unlimited powers for mental work and boasts of his capacity to dispense with the usual allotted period of rest, assume that his powers are superior to the laws of mind in its relation to and dependent upon the brain: or suppose that his fancy and imagination unconsciously exercised as they are can construct for themselves an impregnable fortress, raised above the clods of earth independent in its isolation, yet on a sure foundation, while defiant of the rational thrall to which it has been made subject by a strong and higher hand than mans.

And now I am done. If I felt sure that I had entertained you, or had said anything that has freshed your thought, I shall feel well repaid. If what I have said shall act as an incentive in urging you to study, to search for the truths and mysteries which lie hidden in the neurotic family and early in the future to bring them before the profession and the public in all their force I will feel better repaid. But I shall be best rewarded for my labors if this obstacle can be removed which has so often checked or reversed the progress of mankind.

And my professional friends let us hope for happier and better days, and that God's will in his magnificent works shall reign supreme, and love and peace and joy shall make their paradise with man.

SOCIETY OF EX-INTERNES OF THE CINCINNATI HOSPITAL.

FIRST ANNUAL MEETING MARCH 7TH, 1881.

"A Few Points in Spinal Pathology."

DR. PHILIP W. ZENNER read the above paper before the Society, saying, as this is the first regular meeting of this Society, I have been at a loss to decide what kind of a paper to read before you. Many old friends meet here who have not seen one another for years, and a shake of the hands will, perhaps, please them more than any dry medical matter.

But as my name has been put down for a paper, I have aimed in the following pages to bring before you some subjects of interest, both on account of their intrinsic importance and the novelty of a certain freshness still about them, and hope through brevity to bring them before you rather as subjects for discussion than to enter into any exhaustive treatment of them.

Systematic Diseases of the Cord.—In our knowledge of the spinal cord, its anatomical structure, physiological functions, and especially its diseases, we have made great progress in the last few decades.

The researches of Flechsig on the history of development of the cerebro-spinal axis has thrown much light on this whole subject; and his results, largely corroborated by the study of secondary degenerations and the ordinary pathological changes in the cord, serve as the basis of the present teaching in that department. These results have taught us that the cord is composed of certain systems of nervous elements, which are anatomically and physiologically distinct.

Pathological observations have taught us that many chronic diseases confine themselves to one or more of these symptoms, and such are now usually denominated systematic diseases.

A list of the systematic diseases, so far as they are yet known, together with a synopsis of their symptoms, will give us an idea of the functions of the different systems or columns, and I shall venture to give them here.

These diseases, anatomical seat, and chief symptoms are as follows:

Locomotor Ataxia.—Anatomical seat: posterior column. Symptoms: pain, anæsthesia, muscular inco-ordination, disturbance of the functions of bladder and rectum.

Amyotrophic Lateral Sclerosis.—Anatomical seat: lateral columns and ganglion cells of anterior cornua. Symptoms: paresis or paralysis of extremities and wasting of muscles.

Spastic Spinal Paralysis (Erb). *Tabes Dorsal Spasmodique* (Charcot). Anatomical seat: pyramidal tract of antero-lateral columns (?) Symptoms: paresis or paralysis and rigidity of extremities, reflex contractions and contractures.

Poliomyelitis Anterior Acute and Chronic.—(Infantile paralysis is the most common instance of the one; progressive muscular atrophy of the other). Anatomical seat: ganglion cells of anterior cornua. Symptoms: paresis, or paralysis, and muscular atrophy.

The object of this paper is not to discuss any of these diseases in particular, but to deal with a few points of interest in connection with them.

The Knee Phenomenon.—And first the knee phenomenon or patellar tendon reflex. You know this is a sudden contraction of the quadriceps femoris produced by tapping the patellar tendon. It is a phenomenon which, in its absence or undue exaggeration, becomes of the greatest value in the diagnosis of certain diseases. It can almost always be elicited in health. Berger examined 1,409 healthy persons, and failed to detect it in 1.56 per cent of those cases. Westphal never failed to detect it in healthy persons. The same has been the experience of many other neurologists.

Westphal has pointed out some mechanical conditions, under which it becomes more difficult to elicit the phenomena; for instance, in short, stout persons, with short ligamenta patellæ. I have several times examined persons unsuccessfully in the usual manner, viz.: with one leg crossed over the other, and without removal of ordinary clothing (in the great majority of cases under such circumstances a tap on the tendon will cause a jerk of the foot forward), when, after laying the knee bare and seating the patient on a table so that the legs hang perfectly relaxed, the knee jerk could easily be produced.

As to the diagnostic value of this phenomenon. It is exaggerated in cases of lateral sclerosis, secondary degeneration of the pyramidal tracts, and multiple sclerosis when affecting the lateral columns.

It is absent in the great majority of cases of locomotor ataxia; and here its diagnostic value is the greater, as it is one of the first signs of the disease.

Westphal believes it is always absent in typical cases of locomotor ataxia. In this opinion he is not upheld by some physicians of large experience. He believes further that the absence of this phenomenon is due to disease of a certain very limited part of the cord. He bases this opinion on the observation of a case of general paralysis of the insane, in whom, during his stay in the hospital, the patellar tendon reflex gradually disappeared. There was no other symptom of spinal disease. The post-mortem examination revealed pathological changes in a limited portion of the external posterior column in the lumbar region. It is, then, to disease in this part that Westphal would attribute the failure of this phenomenon, and it is a significant fact that in the same part pathological changes in locomotor ataxia usually begin.

One more question and we are done with this subject. Has the absence of this phenomenon during health any significence? I believe on any careful examination it will very seldom be found absent in health. But if then found Westphal considers it a matter of some consequence. He points to the fact that disease of the cord is often stationary for many years, and suggests the possibility that in cases of the kind just mentioned there may already be disease of a part of Burdach's column, and that in later years other symptoms of locomotor ataxy may occur.

But I suppose if we found an absence of this phenomena in one who was otherwise in perfect health we would not therefore render as unfavorable prognosis.

Occular Symptoms.—I wish to speak also of another symptom or rather set of symptoms of spinal disease, which are perhaps not sufficiently valued by the general profession. I mean the occular symptoms. They are affections of the pupils, paralysis of external muscles of the eye and amaurosis, and are found principally in cases of locomotor ataxy.

In what way these symptoms are connected with diseases of the spine is unknown. Like the absence of the patellar tendon reflex they are of of greater diagnostic value because they frequently occur in the earlier stages of the disease. Temporary paralysis of the external muscles of the eye are the most frequent premonitory symptoms of locomotor ataxy. Atrophy of the optic nerve not infrequently is found some time before ataxic symptoms occur. I saw a case at the St. James Hospital under Dr. Bristowe, in which complete amaurosis existed eight or ten years before any ataxic symptoms were manifested, and have frequently seen cases with gray atrophy of the opic nerves and absence of the patellar tendon reflex with no other symptoms of locomotor ataxy, but in whom it could scarcely be doubted such symptoms would later develop.

The most valuable of the occular symptoms, because almost characteristic of locomotor ataxy, and very frequently seen, is that called the Argyl Robertson pupil. The pupil is contracted, does not respond to light, but contracts during accommodation.

The symptoms we have been considering are of great value because they often enable us to diagnose the disease in its earliest stages when we can hope to do most good with our remedical measures.

Nerve Stretching. —We will now make a spring from diagnosis to treatment and consider nerve as a theraputic measure in spinal diseases. This operation, first performed by Nussbaum for neuralgia, has been recently introduced in the treatment of chronic diseases of the cord.

It was first performed Langenbuch of Berli in a case of locomotor ataxy. The object of th operation was the relief of the severe pains wit which the patient was suffering. To the su prise of the surgeon not only were the pains r lieved; but the ataxia and anæsthesia were ver much lessened, almost removed. Since then th operation has been frequently repeated in diffe ent spinal diseases, but principally locomoto ataxy. It has met with various success. Wit some the results were even more brilliant than i Langenbuch's first case, in others it was an en tire failure. I have seen but one such case. I was in the earlier stages of the disease and wa operated upon for severe pains in the legs.

Mr. Adams (at the National Hospital for para lyzed and epileptics) stretched the great sciati The result was complete relief from pain for week, after which it was as severe as before.

The largest number of such cases was reported by Langenbuck the first operator. In the Berlin *Klin. Wochenschrift*, 1881, he reports the results of nerve stretching in thirty cases. They include various diseases of the cord, locomotor ataxy, lateral sclerosis, multiple sclerosis, progressive muscular atrophy, and two cases of chronic skin disease, pruritus senilis and pemphagus, supposed to depend upon some central nervous affection. In the last two the operation was a complete success, in the cases of progressive muscular atrophy it was apparently without effect, in some of the cases of lateral and multiple sclerosis there was improvement in some of the symptoms, and in those of locomotor ataxy, which constituted the majority, the success was flattering.

In what manner does this operation relieve the symptoms of spinal disease, and what does it promise as a curative measure?

As to the first question we are still completely in the dark. We do not even know whether we are to attribute the effects to its influence on the peripheric or central nervous system. Various theories have been suggested in explanation of the results. But in our present state of uncertainty it is better to leave that question entirely open for future researches to decide.

As to the second question the cases are all too recent to allow any positive conclusion. But in this class of cases, many of which have appeared almost hopeless as regards either their cure or amelioration; the results have been such as to promise us a valuable measure in the combat of these diseaeas, and certainly should urge us to its further trial in similar cases. That it will often fail, that in some cases it will even do harm past experience has already demonstrated. But we may hope that a fuller knowledge of these diseases and further experience with this operation may enable us to select the type of disease or the stage in which the measure promises most benefit.

Curability of Locomotor Ataxy.—One more point and this paper is ended, that is as to the curability of locomotor ataxy. That in its early stages the disease is sometimes cured can scarcely be doubted. In many cases some of the symptoms, the ataxia anæsthesia, etc. improve for a time, or remain at a stand still for an indefinate period. Sometimes fully developed cases of the disease appear to recover entirely. Most authors of experience report one or more of such cures. Erb in his work on diseases of the spinal cord in Ziemssen's encyclopœdia reports two cases as "about cured." One of these recently died and the results of the examination were published by Schultze in the *Archiv für Psychistrie und Nervenkrankheiten* 1881. The patient had been free from the symptoms of spinal disease for eight years, absence of the pattelar tendon reflex alone remaining. He died June 1881 of acute poisoning. The post mortem examination revealed the degenerative changes in the posterior column characteristic of locomotor ataxy.

This case teaches us a double lesson. Firstly, that notwithstanding extensive disintegration of the cord there could be complete restitution of function. This was doubtless partly due to fibres not usually called upon, assuming the function of those which have been destroyed, the collateral innervation of Stricker, or vicarious function, as called by others.

Another lesson the case teaches is how far and in what manner this disease can be cured. That in its early stages when there is very little if any structural change its traces may entirely disappear is not improbable. But when there are already pronounced degenerative changes in the cord, if the case is cured it will probably be in the manner of that just given, that is with anatomical lesions still existing; for all experimental studies seem to show that disintegrated portions of the cord cannot be reproduced.

For the prognosis and therapy of tabes these conclusions have great value. As a rule when the disease has begun it has a tendency to extend. It may be that this tendency to extend is one of its essential features through the trophic influence that one part of the cord exerts upon another. At least it is a fact that the pathological process does not usually halt. When therefore in a given case there has been an apparent recovery, we will remember the degenerative changes which are still present, be careful about giving an absolutely favorable prognosis, but especially remember to guard our patient against all deleterious influences which could reawaken the pathological process that is perhaps only slumbering.

MIAMI MEDICAL COLLEGE ALUMNI ASSOCIATION.

THE annual reunion of the Alumni Association took place at the college building, Thursday afternoon, March 9th, 1882, Dr. C. P. Brent in the chair and W. H. Falls, Secretary. It was the largest meeting which the association has ever held. Many distinguished gentlemen from various and remote parts of the country were present. Among many others were noticed Dr. Gatch, of Lawrenceburg, Ind.; R. B. Hall, of Chillicothe, O.; W. C. Henry, Aurora, Ind.; S. L. Ensminger, Crawfordsville, Ind.; W. W. Hall, Springfield, O.; S. B. Sheldon, Five Mile, O.; W. E. Totten, Springfield, O.; P. J. Kline, Portsmouth, O.; E. S. Ricketts, Portsmouth, O.; John Elfers, Guionsville, Ind.; B. M. Ricketts, Ironton, O.; and W. H. H. Nash, Columbus, O.

Dr. C. P. Brent, President of the association, delivered the address of welcome to the graduating class of 1882, and was responded to in behalf of the class by Dr. Thomas V. Barkley.

The short addresses made by members of the various classes were ably rendered, and recalled to the minds of those present many pleasant scenes and incidents of college life. The faculty of the college invited the alumni to attend their annual banquet at the Burnet House in the evening.

The large picture of Dr. Wm. T. Brown, deceased, heavily draped in mourning and hung back on the speaker's desk, caused many an eye to grow dim with tears as they gazed upon the features of their beloved dead President. The following are the officers for the year 1882–1883: President, W. C. Henry, M. D.; First Vice-President, Dr. W. H. Wenning, class of '71: Second do., Dr. R. B. Hall, class of '72: Third do., Dr. Daniel Millikin, class of '75; Fourth do., Dr. J. D. Maxwell, class of '78; Fifth do., Dr. Dr. H. A. Beeson, class of '79; Sixth do., Dr. S. B. Sheldon, class of '69; Dr. W. H. Falls, Secretary; Dr. F. F. Hellman, Treasurer. Executive Committee, Dr. Joseph Eichberg, Dr. Robt. Sattler, and Dr. John L. Davis.

Correspondence.

THE EYES IN INSANITY.

Editors Lancet and Clinic:

IN Vol. 8, No. 6, of the LANCET AND CLINIC, under the head of "Miscellany and News," I noticed a brief article taken from the *London Lancet* on the eyes in insanity.

The author makes the very broad assertion that there are no signs in the appearance of the eyes worthy of a moment's serious consideration in the diagnosis of insanity.

To the inexperienced this may sound very wise and plausible; but on the contrary to those who have observed the insane for any length of time, it can but create a suspicion of unwarranted carelessness and lack of careful observation on the part of the author.

In very many forms of insanity, the eyes are important factors in making up a correct diagnosis. For example, to be brief, take "*acute primary dementia*," and other forms of "dementia," but more especially primary, there will be found in nearly every instance marked dilatation of the pupils, with immobility of the irides. In the acute forms of mania the opposite condition obtains, with conjunctival suffusion. I can, perhaps, give no better example or illustration of these eye abnormalities than to call attention to the inequality of the pupils, together with visual disturbances in those suffering from "general cerebral paralysis," or paralysis of the insane. This condition is seldom absent, and should never be overlooked in such examinations. I may justly assert that it ranks first in order among the physical symptoms. Other examples could be cited, but enough has been said to convince the most skeptical. W. H. DeWitt, M.D.

Mt. Auburn, Cincinnati.

Selections.

MEDICINE.

Rheumatic Idiopathic Bubo.—Herr Kühn delivered a discourse at the Medical Society of Leipsic, session January 25th, on idiopathic rheumatic bubo, from which we take the following points:

Having mentioned the history of the affection, the author proceeded to speak of the disease as a swelling in the groin which constituted an independent affection and was not preceded by syphilitic infection. The cause of the disease was to be referred to "cold," occurring, for instance, after long marching, or after exposure in privies subject to draughts. The disease begins suddenly in the groin, very rarely on both sides alike, often only on one side first and later on the other. as a small painful inflammation of a lymph gland. The infiltration can be plainly felt and is very sensitive to pressure. The temptation is always to regard it as a mere transitory affection, but in direct contradiction to this view the swelling rapidly increases and effects mostly a peculiar disturbance in the general condition to a degree which is reached by no other form of gland swelling, neither, for instance, by the acute syphilitic chancrous bubo, nor by the chronic indurative adenitis. Loss of appetite, coated tongue, chills, heavy night sweats, profound prostration, characterize this affection.

The local trouble leads in the rule to long continued suppurations, and the general disturbance ceases in three or four weeks, but in exceptional cases the swollen gland hardens and only very slowly and gradually disappears by absorption. Women are very seldom affected with it, and as a rule the men affected are subjects of anæmia, scrofulosis, tuberculosis, or inveterate syphilis.

As to therapy an expectant plan of treatment is the best. Early operative interference is to be avoided. Specific general treatment is without value.

Regarding the pathological anatomy of the disease it is to be looked upon as a periadenitis inguinalis.

In the discussion which followed, Messrs. E. Wagner, Heubner and Tillmans did not exactly deny the existence of the kind of bubo described by Kühn, but derived it from minute, easily overlooked, lesions or abrasions on the genitals, or on one or other lower extremity, especially about the feet.

These solutions of continuity offered surfaces of penetration for infectious matters which led to adenitis inguinalis with or without demonstrable lymphangitis.

At the close of the discussion Herr Kühn admitted the existence of such abrasions or lesions in a certain number of cases, but persisted in maintaining for another category of cases the possibility of a rheumatic ("cold") origin of certain buboes.—*Berlin Klin. Wochenschrift*, January 23, 1882.—*Med. Neuigk.*, Feb. 18, 1882. J.T.W.

Observations on Hemiplegia.—M. Brown-Sequard has noticed that in old cases of hemiplegia, there was more or less loss of strength on the non-paralysed side. Even after a return to apparent health this feebleness persisted, and always seems more marked in the legs than in the arms. Although, he did not wish to arrive at definite conclusions before he had studied the subject more closely, still, he thought he was justified in saying that in unilateral lesions of the brain we find really a *paraplegia* with the symptoms more marked on one side than on the other. In the comparatively speaking sound side there are evident disorders of sensation.—(*Proceedings of the Société de Biologie.*) Jan. 21, 1882.

Quantitive Changes of Blood Corpuscles in Fevers.—The results of Adolph Boekman's investigations may be summed up in the following statements:

In febris recurrens the number of red blood corpuscles undergoes a sudden diminution, which loss increases more and more as the fever progresses and reaches its maximum during or immediately after the crisis.

In febris intermittens the number of red blood-corpuscles is also considerably diminished. Kelsch has proven, that the number of red blood corpuscles decreases with every attack of intermittens. Likewise in Boekman's experiments there became evident, coincident with the rise of temperature, a decrease in the number of red blood corpuscles and an increase in the number of white corpuscles.

In pneumonia, also, a diminution in the number of red blood corpuscles takes place during the febrile period, the loss being especially marked after the crisis. A case of severe anæmia demonstrated in like manner a very considerable decrease in the number of red corpuscles during the febrile stage.

In intermittens quotiana the white blood corpuscles appear in greater quantities during the entire period, while any attacks were experienced. Kelsch noticed a multiplication of the white corpuscles only in the pernicious malarial infections, while Fuhrman claims that this process occurs also in simple intermittens although in a slighter degree. Boekman's observations harmonize consequently with the results obtained by Fuhrman. Both pneumonia and anæmia were accompanied during the febrile period by a multiplication of white corpuscles.

The failure to count the number of white corpuscles in the blood of those suffering with febris recurrens, compels us to resort to the investigations of Laptschinski and Heydenreich. According to these two observers there appears in recurrens, during the fever, a considerable increase in the number of white corpuscles, which makes its appearance suddenly and reaches its maximum on the day, when the temparature falls, but during the intervals between the febrile attacks returns gradually to its former state.

If, reviewing these observations, we compare the conduct of the red and white corpuscles with one another as well as with the body temperature, the conclusion is reached, that in the acute febrile affections, the number of red blood corpuscles undergoes variations contrary to the changes in temperature. while the number of white corpuscles, on the other hand, undergoes changes parallel to the range of temperature, i. e.—that between these two organic elements of the blood there exists during the fever a certain antagonism in this respect a decrease in the number of red corpuscles, corresponding to a higher temperature is always accompanied by a corresponding multiplication of white corpuscles.—*Deutsche Medizinal Zeitung.* G. A. F.

DIABETES.—In a communication to the Académie de Médecine on the subject of the pathological anatomy of diabetes, M. Lécorché has maintained that the functional activity of the liver is so essential for the existence of the disease, that the malady is arrested if grave structural changes occur in the organ. Congestion of the liver, is however, invariable in the disease, and, in the later stages, secondary structural changes occur. Atrophic cirrhosis is too common in old cases to be a mere coincidence, but it is to be referred, at least in a part, to the excessive ingestion of liquids which is so constant a symptom of the disease. At the same meeting M. Magitot advanced the opinion that diabetics are extremely liable to an affection of the jaw, which he calls alveolar osteo-periostitis, which may commence at the onset of the disease and continue throughout its course. The alveolar affection commences by a deviation of the teeth from the perpendicular, they then become loose and eventually fall out. Ultimately the alveolar borders undergo resorption, sometimes after gangrene of the gum. The latter change is usually soon followed by the fatal termination.—*London Lancet.*

CAN A MAN HAVE SYPHILIS TWICE?—The man whom we have just seen offers a remarkable example of the occurrence of a second chancre soon after the first. His second sore has been, as I have repeatedly demonstrated, characteristically indurated. He is quite candid, and makes no doubt that this sore was the result of contagion. Yet it is barely a year since he had his first chancre, and this was followed by an eruption, of which he had scarcely got clear when this second sore occurred. The case is proof that man may have an indurated sore on the penis within a year of a former one, but it is not proof that he may have syphilis twice, for this patient has not as yet had any constitutional symptoms as the result of the last chancre. If, however, you ask me for an answer to the general question, Can a man have true complete syphilis twice? then I must reply clearly that he can. Such cases are rare—as rare perhaps as second attacks of small-pox—but they do occur. I am at present attending a gentleman who has a terrible phagedenic chancre and rupial eruption, and who unquestionably had complete syphilis, chancre, sore-throat, and rash seven years ago. I have also a second case under my care, very much milder, but illustrating exactly the same fact, with almost precisely similar dates.

Second chancres are, however, far more common than second attacks of constitutional syphilis. Many of them are the result of fresh contagion, but seem to have no power to produce constitutional symptoms; but others are not from contagion at all, but form in connection with a taint still remaining from the first attack. It is a most important fact that indurations may form in the penis in every respect exactly like Hunterian chancres, not distinguishable in any way, and yet that they may be merely recurred sores, and the products of constitutional taint. I have seen this over and over again; and M. Alfred Fournier of the St. Louis Hospital has written a very instructive paper on this form of sore. In the case of our patient it is obviously impossible to say, after the statement which I have just made, whether or not his present sore is the result of fresh contagion. It may be simply a relapse, or it may be a gumma. He, however, confesses to exposure; and as the sore followed in due course it is probably true that he was afresh inoculated.

Second attacks of syphilis are sometimes, as in the case just mentioned, very severe. The same has, I believe, been occasionally noted in recurred attacks of variola. As a rule, however, they are mild, or even abortive. Third attacks may even occur; and so may, as we are told, third attacks of small-pox. We must explain such facts, I expect, by reference to individual peculiarity and idiosyncrasy, but it is important that they should be known. The belief that syphilis can occur but once in a lifetime is very widely spread among a certain class of the public. I have watched with amusement the change in expression in many a young gentleman's face when he got my reply to his smiling suggestion—"a man can not, I suppose, have the disease a second time;"—Part of a clinical lecture by Johnathan Hutchinson, F.R.C.S., *British Medical Journal.*

BENZOLE INHALATIONS IN WHOOPING COUGH.—An annoynous writer sends a short communication to the *London Lancet* on this subject. As a substitute for the inhalation of gases, which are thrown off in the neighborhood of gas works, he caused his patients to inhale the vapor of benzole, which he diffused through the air of the room by means of a spray apparatus, such as is used by Lister "with the most gratifying results. It certainly checked the sapsm and relieved the whoop."

An Evangelical of Hobart, Australia, it is said, refused to permit his child to be vaccinated, because the virus came from a member of the family of a Ritualist. He indignantly delared that his child should not be inoculated with Ritualism. "On the vaccination theory," says the *Independent,*" "he did not act wisely. If the child had been inoculated, he could have only a very mild attack of Ritualism, a sort of religious varioloid."—*Canada Med. and Surg. Jour.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, March 11th, 1882.

The Week.

COMMENCEMENT EXERCISES.

MIAMI MEDICAL COLLEGE.

The twenty-second annual commencement of the Miami Medical College took place at College Hall the evening of March 9th. The attendance was large and the exercises of a very interesting character. The programme was as follows:

Overture—"A Night in Granada"......Kreutzer
Cincinnati Orchestra.
Prayer....................Rev. J. W. Bushong
Waltz—Aula.........................Strauss
Orchestra.
Remarks by the Dean.....Prof. Jno. A. Murphy
Song without Words.................Jungman
Orchestra.
Conferring of Degrees..A. H. McGuffey, Esq.,
Pres't Board of Trustees
Selections from "Boccaccio".............Suppe
Orchestra.
Valedictory Address........Prof. Wm. B. Davis
Polka.............Cornet Solo, by H. Belistedt
Benediction................Rev. J. W. Bushong
Finale—Leichtes Blut...............Strauss
Orchestra.

After prayer and music, the Dean of the Faculty, Prof. John A. Murphy delivered a brief address, from which we take the following:

The Miami Medical College closes its twenty-second session this evening. The class of forty young gentlemen now about to receive the degree of Doctor of Medicine is claimed by the Faculty as worthy of public confidence.

They have studied for the full term of three years. All of them have attended two full courses of lectures of five months each. Some of them have still further added to their qualifications by attending a third course of lectures.

We must not omit to mention that three, Messrs. Dunn, Sattler and Evans, have served the last year as resident physicians in the Cincinnati Hospital, which positions they secured after a severely contested examination.

These young gentlemen have not only been subjected to frequent examinations by the Faculty during the last five months, but have also passed a final examination, so rigid in its character as to test their qualifications.

What advantages have these young gentlemen enjoyed here to entitle them to public confidence? The Miami Medical College is equipped in every respect to compare favorably with any of its rivals. Its corps of teachers, laboratories and appliances for teaching are first-class. Its clinical advantages are superior. The great charity, the Cincinnati Hospital, affords clinical lectures and bedside teaching daily during the session of five months.

Dr. Murphy concluded as follows:

The Miami Medical College does not boast so much of its numbers as of the faithful work it has performed in sending out good physicians and upright citizens.

The graduates were as follows:

Ayars, Harry Eugene
Barkley, Thos. C. V.
Bohl, John, jr.
Boyd, Wm. Harvey
Bundy, David Benj., jr.
Castro, Jabez Clifford
Courtney, Benaga G.
[1]Dunn, Walter Angus
Ensminger, Jno. Austin
[1]Evans, Arthur Eugene
Flin, Ed. Ambrose
France, John William
Gable, Albert Hargood
Greene, Lindley Murray
Hallock, Lewis Henry
Hardee, John Horton
Hartley, Jefferson T.
Hartwell, Edward M.
Hoskinson, Wm. Harvey
Kay, Clarence Henry
Keefauver, Sam'l H.
Martini, Ethelbert C.
Maxwell, John Andrew
McCoy, Geo. Thos.
McCreary, Wm. James
Paxton, Rob't Simpson
Platt, Dan'l Edward
Platts, Geo. Emerson
Price, Richard Duane
Pritchard, Walter Keen
Probst, Chas. Oliver
Redmond, Robert E.
Richardson, John F.
[1]Sattler, Eric Erichson
Swisher, Argus Brutus
Templeton, Wm. L.
Truman, Henry Francis
Twitchell, Herbert E.
Walker, Jos. Buchanan
Werthner, Jos.
Winternitz, Isaac Adler

[1] Internes of Cincinnati Hospital 1881-2.

After the conclusion of the exercises at the hall, the graduates, the Faculty, and a few invited guests repaired to the Burnet House, where an informal banquet was partaken of.

At a regular meeting of the Academy of Medicine, held Monday, March 6th, the following officers were elected to serve for the ensuing year:

President—J. L. Cleveland, M.D.
Vice-President—Wm. Judkins, M.D.
Second Vice-President, A. Ravogli, M.D.
Recording Secretary—W. H. Wenning, M.D.
Corresponding Secretary—G. A. Fackler, M.D.
Treasurer—Geo. E. Jones, M.D.
Librarian—Thad. A. Reamy, M.D.
Trustees — A. E. Heighway, M. D., Byron Stanton, M.D. and J. C. Culbertson, M.D.

Miscellany and News.

Congenital Malformations of Intestines. Of all malformations due to arrest or perversion of the normal developmental processes, that which gives rise to the retention of a diverticulum from the ileum, representing the relic of the omphalo-mesenteric duct, is perhaps the most common. In the adult this diverticulum is generally seated about three feet above the ileocæcal valve; it springs, as a rule, from the convex surface of the surface of the intestine, and is not only formed by walls precisely of the same nature as the bowel, but is generally also furnished with a small fold of serous membrane on one side—a minature mesentery. In length it varies from half an inch to five or six inches, and in the latter case may be attached to the under surface of the umbilicus, with or without structures representing obliterated omphalo-mesenteric blood-vessels. It is usual to call such diverticula by the name of Meckel, to whom belongs the credit of having (in 1813) first correctly interpreted their nature. Since he wrote it has been generally admitted that he was right in attributing such diverticula to the persistence of a portion of the vitelline or omphalo-mesenteric duct—a structure which in the human fœtus is present only for the first six weeks or so of embryonic life. Naturally one may expect to meet with variations in the form and disposition of such fœtal relics, owing to the supervention of various disturbing inflences. A fairly complete but concise account of all the malformations that may so arise is contributed to the last number of Virchow's *Archiv* by Professor Roth, of Breslau, in which he arrives at the following classification: 1. The ordinary Meckel's diverticulum, which may lie within the abdominal cavity, within a hernial sac, or between the folds of the mesentery—the latter a very rare condition, of which he gives an instance. 2. Adherent diverticulum, either to the umbilicus, by the remains of the omphalo-mesenteric vessels, or more rarely to other parts of the abdominal cavity. 3. Diverticula which, instead of being closed at their free extremity, remain persistently open, the closed end having sloughed away with the separation of the umbilical cord. This opening may be at the umbilicus, forming an intestinal fistula, or in the prolapsed portion of the diverticulum, or in the midst of a fleshy appendage seated at the umbilicus (of which he describes an interesting case), or complicated by hernial prolapse in that region. 4. Peculiar cysts composed of walls reproducing the epithelial and muscular elements of the intestine, and filled with serous-looking fluid. These "entero-cystomata" may retain their connection with the intestine, or they may become detached from it, and even be met with in the thoracic cavity, owing to their formation taking place before the division of the pleuro-peritoneal into two sacs. The following is a brief account of the conditions found by Dr. Roth in two such cases. One was that of a male child sixteen months before death, which occurred from gangrene of pedicle of the cyst and peritonitis. Within the abdomen an oval cyst lay in front of the mesentery and behind the omentum which was adherent to it. It was furnished with a pedicle eleven millimetres long, attached to the concave border of the ileum, sixty-six centimetres above the ileo-cæcal valve. Through this pedicle communication existed between the bowel and the cyst, which contained not only some brownish-red slimy fluid, pus, blood, and epithelial cells, but starch-granules and muscle-fibres from the ingesta. The cyst was lined by columnar epithelium, villi, and Lieberkühnian follicles, beneath which was a compact submucous layer and a layer of muscular fibres, disposed circularly and longitudinally. The cyst then was nothing but a greatly dilated free extremity of a Meckel's diverticulum, which was itself provided with a short mesentery. The other case was one where a diverticulum occurred within the mesentery parallel to the gut from which it sprang, whilst three distinct cysts occurred elsewhere. A small one, not far from the diverticulum, lay also between the folds of the mesentery, whilst two of much larger size occurred at a distance from their supposed seat of origin—one, namely, behind the peritoneum in the abdomen, the other occupying the posterior mediastinum and compressing the lungs. The two cysts may not have been derived from the ileum, but may have been formed *il loco* by aberrant development of the œsophagus or duodenum. But, like the smaller one, they were lined by columnar cells, and had plain muscular fibres in their walls.

Dr. French contributes a description of a somewhat allied congenital malformation—viz., a persistently patent urachus. This is the relic of the allantois, the transient structure extending from the posterior extremity of the primitive intestine, and destined for the conveyance of the allantoic or umbilical vessels to the chorion, to form the fœtal part of the placenta. The proximal part of this structure becomes the urinary bladder, the intermediate the urachus, which in Dr. French's case and others on record remained a patent tube. —*London Lancet.*

Excretion of Urine and Semen.—M. Alph. Guésin has sought to explain otherwise than, as is commonly admitted, by the action of the different perineal muscles, how the excretion of the last drops of urine and semen is produced. According to him the bulbo caverous muscles aid the secretion but in an indirect way, that is to say by the intermediation of the blood contained in the bulb; the blood, under the impulse resulting from the contraction of these muscles, presses the mucous membrane from behind forwards in such a manner as to accelerate the jet of urine when the contraction is moderated, and to cast out the last drops when the contraction is forcible enough to merit the name *coup de piston*. The result is that whenever the circulation from the bulb towards the glans is dammed back as occurs sometimes in strictures, this action is produced only imperfectly, and the secretion of semen or the last drops of urine will be accomplished in a very incomplete manner. Sterility, so frequent in those having strictures, can thus be explained. *—Journal de Med. et de Chirurgie.*

THE FORMATION OF BLOOD-CORPUSCLES.—The authority with which M. Malassez speaks upon all subjects connected with the constitution of the blood confers importance on a summary of facts relating to the formation of red blood corpuscles in bone marrow, which he has recently communicated to the Société de Biologie. This summary contains an account of the result attained in the series of investigations on the subject, and embody facts and theories of undeniable importance. It is generally admitted, since the discoveries of Neumann and Bizzozero, that the red cells discovered by the former in the bone marrow of the mammalia are embryonal corpuscles, but various opinions are held regarding the origin of these cells and the mode in which they are transformed into red blood discs. It is to these two points that his investigations have been especially directed. The first hypothesis which was advanced—and it is still accepted by many authorities—is that the red cells are transformed into corpuscles by the gradual disappearance of their nuclei. If the process is studied in animals in which the red corpuscles are nearly the same size as these cells, forms of the latter may be observed in which the nuclei appear to be in process of disappearance. But if methods are employed which leave the structure of the cells unaffected, and especially if the examination is made in animals in which the red blood discs are considerably smaller than these cells, such intermediate forms cannot, according to Malassez, be discovered. Moreover, the corpuscle is so much smaller than the cell that a transformation of one into the other would imply either a contraction of the protoplasm of the cell, or a change by which this breaks up and forms more than one globule, and each assumption is destitute of evidence. Hence the conclusion is drawn that this theory of transformation by destruction of the nucleus is untenable. Rindfleisch, from appearances which he observed in some cells, concluded that the change does not consist in a destruction of the nucleus, but in the exit of this from the cell. This appearance is stated by Obrastzow to be due to an alteration of the cells analogous to that which Donné long ago noted in the corpuscles of a frog treated by water. It is probably an artificial phenomenon, for it cannot be observed in recent or well-preserved specimens.

In studying the formation of blood-corpuscles in the spleen, Malassez and Picard observed cells charged with hæmoglobin, which presented protoplasmic buds having the aspect of red corpuscles, but spherical in shape, and was suggested that those being detached might become separate blood dics. Malassez has succeeded in finding a similar appearance in the preparations of bone marrow, which were made in such a manner as to preserve undisturbed the form and structure of the tissue elements. A fragment of fresh marrow was teased out on the object-bearer without the addition of any reagent. Sometimes the glass slide was merely touched with a fragment of marrow. The preparation was then exposed to the vapor of osmic acid. The tissue elements being thus fixed, they were colored with picrocarmine or with eosin and logwood. In the hare the hæmoglobic cells are very large in proportion to the red corpuscles, and they may present several minute buds. In the rabbit, calf, cat and child the cells are smaller, and usually the bud is single. The most developed prominences tend to become constricted and pedunculated, and thus to assume the appearance of spherical corpuscles. Their substance possesses the same refractive power the same color, and presents the same histo-chemical reactions as do the red blood-corpuscles. The only difference is in their shape. But the normal globules, which are biconcave, may, under certain conditions of humidity, etc., swell up, become concavo-convex, and, finally, biconvex and spherical. It does not seem inconceivable, therefore, that these buds, becoming detached, may undergo the converse transformation; and the difference in shape does not constitute adequate ground for the rejection of a theory which can plead in its favor a high degree of intrinsic probability.

Regarding the origin of the cells of the marrow, certain facts appear to be well established. They may be seen in every stage of nuclear division, and it is therefore generally admitted that they are capable of fissiparous multiplication. But their primary origin is still involved in considerable obscurity. The earliest theory, which is still extensively held, is that they are derived from white blood corpuscles. But the blood contains several varieties of leucocytes. Mallassez believes that we must reject the idea that they come from ordinary leucocytes, with a finely granular protoplasm, and which appear polynucleated when they are treated with osmic acid; and also the view that they are formed from the white corpuscles which stain the eosin, because these elements are completely different from the red cells, and in properly prepared spcimens no intermediate forms can be discovered. The origin of these cells from the hyaline leucocytes is much more probable, but is destitute of evidence. Preparations made in the above-described method show, however, a perfect series of cell-forms, at one extremity of which is the cell, and, at the other is an element of very different aspect. The forms which resemble the red cell are clearly more differentiated and specialized than the others, and they may therefore be regarded as more advanced in development. All the forms may be referred to the three principal types. Those which are nearest to the hæmoglobic cell differ in their more hyaline protoplasm and smaller amount of hæmoglobin in the reticulated form of their nuclei, and in its slighter affinity for coloring reagents. Another form, further removed from the hæmoglobic cell, possessess a less abundant protoplasm, still less colored and finely granular, a nucleus relatively large, more granular, and tinting still less than those of the last group. In the third form the nucleus occupies the whole, or almost the whole of the cell, as if its substance were diffused through the protoplasm. From the serial character of these forms, Malassez concluded that they, and not the leucocytes of the blood, are the origin of the medullary hæmoglobic cells. The entire succession of forms may be regarded as a progressive development, resulting in the formation of an element which possesses in high degree a special function, that of respiration.

In the animals which possess nucleated red corpuscles the process of formation of these appear to resemble perfectly that of the hæmoglobic cells in animals which possess only non-nucleated blood discs. The cells of origin are the same (and were partially recognized by Bizzozero and Torre), and they present the same transformations, nuclear and protoplasmic. The process does not, however, advance beyond the formation of the red cell. This does not bud, does not form globules; it becomes flattened and passes into the circulation, constituting itself the red corpuscle. Thus the nucleated and non-nucleated red corpuscles are not elements of identical nature, although belonging to the same family and fulfilling the same purpose.

Fuller details of these important researches are to appear in the next number of the *Archives de Physiologie*. The assertion of Malassez will no doubt, meet with criticism; but he is to be congratulated on having furnished an explanation of the process of blood formation far clearer than any which has yet appeared.—*Trans. International Medical Congress.*

FORCING PRISONER TO SHOW HIMSELF.—In a criminal case the place at which the prisoner's leg was amputated being a material point, it was decided by the Supreme Court of Georgia to have been an error in the lower court to require him to show himself, so that a witness could see him and describe his condition to the jury. A defendant in a criminal case cannot be required to give evidence against himself, either by acts or words.—*Boston Med. and Surg. Jour.*

MEDICO-LEGAL IMPORTANCE OF INJURIES TO THE NAILS.—*Journal des Sciences Méd.* for November, 1880, contains the following:—

In the researches made by Bean on the growth and developement of the nails, he studied the semeiological importance of the furrows, or depressions which are observed in a number of diseases, especially in febrile affections, and he called attention to the medico-legal importance which those furrows would have, in a case where the accused might have some interest in concealing the existence of an anterior disease, the date, duration, and details of which could thus be established. The medico-legal value of those suggestions have lately, and for the first time, been put to practical test by Mr. Contagne.

A burglary was commited during the night of October 28th, and owing to various traces, it was evident that the thief had wounded one of his fingers. A month later three men were arrested on suspicion of having done the deed. On examination, Mr. Contagne found that one of these men bore marks on the medius finger of the right hand, of a lesion of the nail, caused, no doubt, by a wound on its external half, which, while serious enough to have interested the connection of that organ with its matrix, had healed without entailing any necessity for a new nail, and after a time, had only left a scar, due to imperfect nutrition. During the examination, the accused evinced great uneasiness, and affirmed that the scar was the result of a wound from a stone, received six months prior. The fallacy of this explanation was, however, evident.

It is known that the average growth of the nails on the index, the medius, and the annular fingers, is four millimeters a month.

At a second examination, made on the 30th of December, the distance between the lower edge of the scar and the lunula was found to measure eight millimeters, consequently, a wound at the base of the nail two months earlier, the date of the burglary, could have caused the scar; in other words, assuming the growth of this man's nails to have been normal, the scar indicated an injury received since, but not prior, to two months.

Three other measurements were made, at monthly intervals, so as to prove beyond a doubt that the man's nails grew in a normal manner, and it became, thereby, possible to overthrow his entire system of defense.—*Medical and Surg. Rep.*

VIVISECTION.—The Rev. C. H. Spurgeon, in a letter upon vivisection, says:—'I lothe the subject intensely, and am unable to imagine the process by which men of education—or men at all—bring themselves to perform such cruelties.' We may be permitted to wonder, in return, by what means Mr. Spurgeon is enabled to utter any opinion on the subject. What are the claims he advances in favor of his being accepted as an authority on scientific questions?—*London Medical News.*

SURGICAL TRIUMPHS. — Professor Nussbaum has just published a very interesting address, delivered on the Anniversary of the hundredth birthday of Philip Franz Von Walther, who was born in 1782, and died in 1849; after an account of his life and work. Nussbaum markes a rapid survey of progress since Walther's day. Anæsthetics, antiseptics and bloodless operations, are all advanced as surgical triumphs. Of Ovariotomy, he says, "about 40,000 years of life have already been gained for woman by successful ovariotomies;" and he believes that lives will be saved and much suffering prevented by Hegar's operation of removing the ovaries to anticipate the climacteric age in woman the subjects of bleeding uterine fibroids. The cure of reflex epilepsy by nerve-stretching he regards as a great advance in theraputics. Excision of the kidney or the spleen, of parts of a cancerous bladder or prostate, of the rectum and of the pylorus, he regards with confidence and hope of improving results; and he believes it "not quite impossible that diseased portions of lung may be successfully excised." Our German collegues are certainly not behind us in courage and adventure.—*Brit. Medical Journal.*

New Method of Preparing the Spinal Cord for Microscopic Sections.—Debove recommends, in the *Archives de Neurologie*, the following method of hardening the spinal cord for microscopic sections:—Place the cord in a 4 per cent. solution of bichromate of ammonia three weeks, then in a solution of phenic gum for three days, and for three days more in alcohol. Sections may then be cut with great facility. They should be placed in water to prevent curling. They are then immersed in a saturated solution of picric acid for twenty-four hours, and colored with carmine for about twenty minutes, the picric acid acting as a mordant.—*British Medical Jour.*

Bibliography.

Smith's "Treatise on the Diseases of Infancy and Childhood."[1]

Another edition of this work is before us. We find it considerably enlarged and evidently the author is keeping up with the age. The same criticisms that are applied to the former edition still, in a measure, hold good for this one. We miss an exhaustive chapter on artificial feeding of infants for instance; it is true that Liebig's food has found mention, with the precaution that "if given in considerable quantity," it is laxative. Some children it is true, when brought up upon Liebig, have diarrhœa, in them it is not to be used as food; when, however, a child takes it and increases in weight it will be found that not diarrhœa, but the reverse, obstinate constipation, is the rule. In addition to Liebig, cold milk is mentioned; Bildect's excellent treatise seems to be unknown to the author; Fleischmann and his experiments in weight and the effects of food are not mentioned; Zweifil on the physiology of digestion we do not find; not to mention Nestle's foods or Biedert's cream mixtures. Indeed the whole of that great fund of knowledge of children's diseases, German literature, seems to be a sealed book to the author. We must therefore accept this work as a purely American contribution to the study of children's diseases. As such, we must commend the styl of the book, the facility which the author possesses in illustrating his points and the larg amount of clinical material that has been draw from.

Skin diseases are here, as in nearly all cases treated of in a highly unsatisfactory and superficial manner, notwithstanding the fact that member of the Dermatological Society of New York has been called to assist. The skin diseases that are known to our author are erythema, roseola, urticaria, lichen, prurigo, and strophulus (all under one heading), eczem and scabies. These and nothing more!

Dwight's "Frozen Sections of a Child."[1]

This little volume with its fifteen excellent drawings will receive a deserved welcome from students of anatomy and persons interested in physical diagnosis, since it presents accurately the appearance of cross sections of a frozen child.

Twelve of the plates represent sections through the trunk of the body and its cavities and a glance at any of these plates will refresh the memory of the practitioners in a manner that hours of special study of a text book scarcely can do. To teachers of anatomy we advise the enlargement of these plates as the very best means of illustrating the relations of different organs to each other. In many particulars the anatomical relations are different in the child and adult. All such variations ascribable to age are elucidated in the text accompanying each plate.

Foster's "Text-Book on Physiology."[2]

This edition of the classsical work of Professor Foster seems to have gained many friends, in that a second edition has been called for. We have nothing to add to the extensive review we published upon the first appearance of this work.

Dalton's "Treatise on Human Physiology."[3]

We hail this new edition of our old favorite with pleasure. In the sixth edition we were afraid that our physiologist had remained a little behind in the scientific race that is now going on all the world over. We are happy to see, however, that he is abreast of his many competitors as is shown by the many additions made in this last edition. This is the text-book for students, the work *par excellence;* from it they get their rudiments in such a way as they can get it nowhere else, to fill up with, larger works are necessary. But if asked which *one book* to get on physiology the answer, without hesitation, would be Dalton.

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[1] By J. Lewis Smith, M.D. Fifth edition. Thoroughly revised. Philadelphia: Henry C. Lea's Son & Co. 1881. For Sale by Robert Clarke & Co.

[1] By Thomas Dwight. New York: Wm. Wood & Co.

[2] By M. Foster, M.A., M.D., F.R.S. Second American from the third and revised English edition, with extensive notes and additions. By E. T. Reichert, M.D. Philadelphia: Henry C. Lea's Son & Co. For Sale by Robert Clarke & Co.

[3] By John C. Dalton, M.D. Seventh edition. Philadelphia: Henry C. Lea's Son & Co. 1882. For Sale by Robert Clarke & Co. Price $7 00.

Original Communications.

THREE CASES OF TREPHINING FOR INJURIES RECEIVED IN COAL MINES.

BY E. C. BRUSH, M. D., CORNING, OHIO.

CASE I.—November 1st, 1881, Eddie M. aged 12 years, received a fracture of the skull by falling slate. Was at once taken up the shaft and carried home. Within an hour the physician sent for had arrived and found the patient unconscious, pulse almost imperceptible at the wrist; eye-lids intensely swollen, and a large soft tumor on the top of the head, beneath which could be felt a depression. There had been profuse hemorrhage from mouth, nose and ears.

A miner who was near at the time of the accident said "there must have been a ton of slate fell on him."

Dissolution seemed iminent, and his condition explained to the widowed mother, with no encouragement as to any benefit from an operation. She wished us to give him all the chance we could and after the priest had performed his ceremony the doctor went to work.

An incision was made beginning about the centre of the forehead, at the margin of the hair, and following the sagittal sutture, was carried to a point a little back of the summit. From the latter point transverse incisions were made extending down towards the ears.

On raising the triangular flaps thus made a large clot of blood, lying next to the skull was turned out, exposing the bone and showing the right frontal and parietal to be over-riding their fellows back to about the centre of the left parietal where was found a fracture of this bone extending towards and going into the squamous portion of the temporal.

On dissecting up the integument of the forehead and passing a finger beneath it, the fracture or separation was found to extend nearly to the nose, where it divided, going to both orbits at about their centre. How much farther we did not, of course, try to ascertain, but the indications and symptoms were that the base was fractured.

An attempt was made to restore the depressed bone to its normal position without trephining, but it was driven so far and so firmly under its fellows that we could not succeed.

A "button" was then taken from the right parietal, the lever rested and the bones brought into apposition. At once the pulse improved, the boy groaned and showed the first signs of life except the breathing.

For an hour nature tried to rally, but failed, and the boy died two hours after the operation and about four after the injury was received.

CASE II.—December 4th, 1881 Robert Burns, a mulatto aged 35 years, occupation, coal miner, received a fracture of the skull from coal while "blasting."

The fracture began just back of the left mastoid process and extended upwards toward the crown, the posterior portion being depressed or driven in. Dr. G. A. Emery was called, and in introducing his finger into a ragged wound of the scalp found things as above stated, also a steady but not profuse hemorrhage from the left ear. Burns was conscious and with help had walked from the mine to his boarding place.

Being called in consultation with Dr. E. I saw the case, soon after the accident, we decided to let the patient alone until some disturbance was caused by the fracture. On the third day a high pulse, rise of temperature, and partial unconsciousness showed that the time for surgical interference had arrived.

Trephining was at once resorted to. A "button" being taken from the anterior or higher side of the brake and the depressed bone raised to its place. The scalp was considerably lacerated by the coal and the flap raised was very irregular.

For two weeks Burns was in a mild happy delirium, always saying he felt first-rate and had a good apetite, gradually his mind cleared and two months after the accident he was again mining coal. There still remains a slight deafness in the left ear, otherwise he says that he "is as good as ever."

CASE III.—December 31st, 1881, Wm. Rodgers, aged 40 years, received a fracture of the skull by a premature blast in the mine. I was sent for and went down to see him. A hurried examination by the aid of a miner's lamp showed the injury to be serious, and he was ordered to be taken "on top" and carried home.

Drs. Kyle and Powell were called in consultation. The face was badly bruised, on introducing a finger into a large scalp wound behind the left ear a fracture of the skull was detected. On examining the body the left clavicle and right tibia were found broken. Rodgers had been hit and burried in a mass of coal thrown with great force by blasting powder, and the only wonder was that he was alive.

The injury to head demanded attention first and in raising the scalp the fracture was found to be almost a counterpart of the second case. The operation was also about the same. As soon as the pressure was relieved the heart's action became better, pulse returned at the wrist. The other injuries were then attend to. One of the consulting physicians said he would be dead in two hours, the other gave him until morning, it being then about dusk.

Every day for ten days he answered questions and seemed to know those around him, but appeared dazed. On the tenth day he asked me what had occurred, remarking that this was the first he had known of the accident and the first time he remembered seeing me. From that time on he has rapidly improved and now is out of bed and able to move around the house, but for the leg he would be well.

The tibia was badly mashed at about its middle and there has been a constant discharge from the leg, caused by pieces of bone which will no doubt have to be removed. The skull and collar bone are well. At times he complains of slight pain over the left frontal region. His mind is as good as ever.

Remarks.—A common "fluted trephine" was used in the case.

The dura mater was intact in all.

The treatment in the application of cold and such remedies as the cases demanded for circulation, bowels, etc.

In the first case the question arose whether we would be justified in operating and was answered by saying "no harm could be done and it gave a little chance."

The second case presents no unusual phases. The operation, after treatment as well as the condition of the patient while in bed correspond to the general history of such accidents.

The third case is somewhat remarkable as in addition to three fractures, one being of the skull—he was bruised all over. The face, back and side of the head were badly cut, and no doubt the body would have been but for the protection of clothing.

My experience connects me with five cases of trephining. Four recoveries and one death as above stated.

THE NATURE OF CONJUNCTIVAL INFLAMMATIONS.

By Prof. W. W. Seely, M.A., M.D.

As will be seen by a reference to the columns of *Selections*, of this number of the Lancet and Clinic, Prof. Sattler, of Erlangen, claims to have found the *micrococcus of trachoma*, and to have excited trachoma in a healthy conjunctiva by placing them upon it.

His paper on the subject seems to have drawn forth enthusiastic applause, as well as the interesting fact that the attention of many of the best men of the department has been and continues to be, directed to the study of the nature of trachoma and conjunctival affections.

The readers of the Lancet and Clinic are already familiar with Leber's views upon the nature of the inflammation resulting from foreign bodies in the eye, and sympathetic ophthalmia, while, in general medicine and surgery, any one who reads at all, knows that the struggle against the mysterious (so-called "independent") origin of inflammations is going on, till now it is probably admitted on all sides "that many inflammations, formerly looked upon as independent, are in reality directly connected with infectious diseases."

The micrococcus of gonorrhœa, discovered by Neisser, in 1879, seems to be confirmed by every investigator, as likewise for gonorrhœal conjunctivitis.

Now we have added the coccus of trachoma. Cocci, etc., have been found in acute catarrhal conjunctivis in some cases, not in others; the same in regard to croupous and phlyctenular conjunctivitis.

Leber in support of Sattler's results says he has been able to confirm the observations of Neisser in regard to the micrococci of blennorrhœa neonatorum, and readily found in the secretion of the trachoma similar structures.

He thinks without doubt the fungus, however, is situated in the tissue itself, just where Sattler found it.

It would seem that all investigations are tending in one direction, viz.: that these conjunctival inflammations are not "independent," but are of parasitic origin. As I remarked in my Louisville address, in '79, "clinical experience seems to support theory;" and at that time the former had little support from scientific investigation.

I claimed at that time, and have claimed much longer, that the remedy I was using in conjunctival inflammations was almost sufficient to prove the correctness of my theory. Each year confirms me still more in the belief that the yellow oxide and vaseline are the remedy, so far, par excellence, for not only trachoma, but other forms of conjunctival inflammation as well; and that probably *its basis of action is paraciticidal.* It does not seem too soon to predict that in general the reputed antiphlogistic action of mercury may be placed upon a scientific basis, and that the old prescription of mercury for gastro-duodenal catarrh (bilousness) rested on a solid foundation.

ABSENCE OF CATAMENIA.

By W. H. DeWitt, M.D.

Mrs. K., native of Germany, 45 years of age, large, strong and muscular woman mother of nine children, seven living, two dead. Was called to treat the youngest child for what proved to be diphtheria. After prescribing and just prior to taking my leave, the mother said she desired to consult me with reference to her own condition. She informed me that for months past she had not been feeling as usual, day and night had more or less head-ache, pain in lumbar region, together with a feeling of weight and dragging low down in pelvis, no actual pain in uterine region, simply an uncomfortable sensation of great weight. These symptoms were thought to be by some of her neighbor women harbingers of climacteric change. This she did not think possible, for she assured me that she had never to her knowledge menstruated. I told her I thought she must certainly be mistaken, but she assured me most satisfactoraly that she had never seen the slightest discharge from the vagina, or from any other source. To satisfy me still further, she never knew when to date her conceptions, that oftentimes she was ignorant of her condition until she felt the movements of the child; from this time (quickening) she determined the time of her confinements. This she informed me was the only guide she had to go by. At the age of seventeen, just prior to her marriage, she consulted a physician thinking perhaps there might be some physical defect of a nature that would preclude her from entering the connubial state. She was informed by the doctor after rather a hasty examination, there was nothing abnormal as far as could be ascertained under the circumstances, advising her to marry, that in time all would be right. But all has not been right; from that time up to the present writing the same anomalous condition has existed, until recently she informed me she never experienced any pelvic discomfort so common at or near the menstrual epoch. Health never impaired, always robust and strong, able at all times, and under all circumstances to attend to her numerous household duties.

Her present condition does not wholly unfit her for the cares and responsibilities of life, but being foreign to her nature, she deemed it important to seek advice, more especially perhaps on account of the gossip of neighbor women.

This one thing she could not reconcile, how it was possible for her to change life in the absence of menstruation. To me this case possesses very considerable interest and curiosity, more especially on account of the number of conceptions. The case of itself, independent of this, is to say the least, *anomalous.* It certainly demonstrates one thing conclusively, viz.: that there is no binding or absolute relationship between ovulation and menstruation, or in other words one may go on independent, or in the absence of the other. One more circumstance and I am done. Five of the nine conceptions occurred while nursing, three of the five within a very short period after confinement.

Mt. Auburn, Cincinnati. O.

Professor Pirogoff, by whose name one of the best known surgical operations is called, and who died a short time ago of epithelial cancer, which perforated the hard palate, left property to the value of 75,000*l*.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of February 27th, 1882.

THAD. A. REAMY, M.D., *Pres't in Chair*. W. H. WENNING, M.D., *Secretary*.

REPORTS OF CASES.

Complications of Vaccination.

Dr. C. O. Wright said that as the subject of complications of vaccination had recently been discussed before the Academy, he would report two cases in which he had had unpleasant results. During the present epidemic he had used the vaccine virus from the Chelsea farm, Mass., without obtaining any bad results, but as he was not able to obtain this at one occasion he procured some of that propagated in Cleveland, and in two instances had unpleasant complications. One of these progressed in the regular course until the fifth day when erysipelas set in, which, however, yielded to treatment in a few days. After this enormous boils formed and a pustular eruption resembling that of smallpox appeared which extended along the whole arm down to the wrist. These pustules differed from the variolous kind insomuch as they were not umbilicated, with the exception of three or four which also presented this characteristic. They continued for one week and are only now on the decline. Otherwise no bad results.

Dr. Whittaker remarked that he received a letter the other day from a medical gentleman living at some distance from the city, who asked his (Dr. Whittaker's) opinion in regard to certain symptoms following vaccination. This gentleman had vaccinated three children in one family, one of which took the regular course, whilst the others were followed by an active inflammation of the arm and a pustular eruption over various parts of the whole body, resembling smallpox. The speaker sent an answer to the effect that the eruption was probably that of regular smallpox. The phlegmonous inflammation following vaccination depends probably on some cachectic state of the individual. Some of these cases may be subject to Bright's disease. He had four cases of phlegmonous inflammations in individuals with this disease. The blood in such persons is poisoned, and hence the tissues offer a nidus for the development of inflammations. The vaccination takes so severe a course because the whole body is poisoned by the effete matter in the blood.

Dr. Ravogli reminded his hearers that smallpox and vaccinia were really but one disease, the one being a disease of the human being whilst the other belongs to the cow. Vaccinia is a general disease as well as variola and is localized only by the method of inoculating the cowpox, whereby it receives the power to prevent the contraction of smallpox a second time. He therefore regarded Dr. W.'s case one of the varioloid form of smallpox. The onset of erysipelas may perhaps be explained from the condition of the virus used in vaccination. The points after having been charged may have been exposed to the air for some time in consequence of which bacteria have formed which, when introduced into the body, cause erysipelas. Nevertheless these few complications ought not excite special surprise when it is considered how many persons are vaccinated without any such effects; for fortunately these complications are rare.

Dr. Ransohoff reminded the previous speaker that Dr. Wright had stated that in his cases the eruption was limited to one limb—the arm vaccinated. Consequently it is not likely that the disease was smallpox, for, even if the pustules are few in number, they are generally to be found in different parts of the body. He also differed from him in the cause of the erysipelas. In Dr. Wright's case abscesses formed on the fifth or sixth day, after which erysipelas set in, which proves that this complication could not be caused by the points but arose from the abscess itself. It is well known that in the neighborhood of any wound, especially if not properly cleansed, large pustules may spring up caused by the auto-inoculation of the skin around these sores. In the case reported the eruption was secondary in character.

Dr. Whittaker said, though it is not infrequent for few pustules to appear in varioloid they are hardly confined to one member. He was also incredulous that both diseases should occur simultaneously. In fact modern investigations tend to proclaim against the possibility of a coexistence of two infectious diseases. It was said that the common hay bacillus could be transformed into the bacillus anthracis, but Koch has recently disproved this statement. When two germs are suspended in the same fluid one will overcome the other.

Multiple Cerebro-Spinal Sclerosis.

Dr. Whittaker reported the following case: A professional gentleman, about thirty-five years of age, otherwise in robust health, was attacked with tremors about two years ago. No cause could be assigned for them; the man had been of regular habits and gave no history of syphilis. Nothing more could be learned than that he had been attacked by robbers some years ago and had received a blow on the head, but he recovered from it without any lesions. The tremors were first observed in his gait so as to excite the suspicion that he had been drinking. Gradually they invaded the upper extremities so that he was unable to write, then the head began to oscillate and finally the tremors became general—the whole period of the symptoms covering about one year from the first onset of the disease. The tremors occurred only after muscular efforts and then became uncontrollable. There was no defect of vision, no nystagmus.

On account of the rarity and importance in a diagnostic point of view the speaker presented the patient to the class. When questions were put to him he answered by dividing his words into syllables—in a *scanning* measure. Some of the students recognized the case at once as one of multiple cerebro-spinal sclerosis, though one student quite naturally took it for chorea. The diagnosis is to be made between these two diseases and paralysis agitans, which is not very difficult. In sclerosis of the brain and cord the tremors are in the line of muscular action whilst in chorea they are irregular and in every direction. In paralysis agitans the tremors are constant, whilst in sclerosis they occur only during muscular efforts. Moreover paralysis agitans generally occurs late in life, between 50 and 60, whilst sclerosis belongs to adult life, between 20 and 40. The cause as well as the pathology is obscure. All we know is that sclerotic patches are found in the brain or cord or both, varying in size from a pin's head to a dime or even a quarter of a dollar. The disease depends on or is a chronic inflammation, but what induces it is not definitely known. An excuse for our want of more accurate knowledge of these conditions is the fact that this subject has been but recently studied, more particularly by the French and Germans. The prognosis as well as treatment is unfavorable. Nothing controls it except the constant current, chloride of barium or nitrate of silver, and then the effect is only temporary.

Dr. Ransohoff reported the following similar though not parallel case to the one just mentioned: A man 30 years of age otherwise healthy had contracted a syphilitic chancre about three ago. Six or eight months ago he was seized with a tremor beginning in the head, then with movements from side to side and before backwards. These attacks came on mostly at night and they became so violent that the bed would shake. After he went to sleep the tremors ceased. There could be no question that the case was specific in character and that there were sclerotic patches somewhere in the cerebrum though the speaker could not determine their exact position. The severe pain in the head led him to this opinion. Iodine of potassium had been given in large doses without effect. Bromide of potassium and chloral gave most relief as under their use the tremors disappeared. As mercurials had not been given the speaker advised the physician in attendance to place his patient on a course of mercury.

Dr. Whittaker remarked that most persons when seeing such a case call it a shaking palsy and then rest satisfied; there is a wide difference between these diseases. When a sclerosis is secondary to some primary lesion it forms a descending stripe or cord and is attended by spastic contractures. A funicular sclerosis may be seperated from disseminated sclerosis of the cord. Locomotor ataxia is easily differentiated from multiple spinal sclerosis.

In progressive paralysis tremor first attacks the lips, tongue, cheek and then the facial nerve. When history is not previously known and the diagnosis must be based on the symptoms alone the disease may be with difficulty recognized, especially in the later stage when paralysis supervenes.

The young age of the patient, the existence of the tremors only during emotional excitement, the peculiar scanning character of speaking the ustagmus and the peculiar swinging gait in the paretic stage are characteristics that belong to multilocular sclerosis; whilst paralysis agitans occurs chiefly in old persons, the tremors are incessant, the articulation hesitating and the gait shows the peculiarity known as "festination."

Dr. Davy remarked that in crebro-spinal diseases we must distinguish between the two classes; one attended with lesions of the nervous centres, the other without any lesions, while the the symptoms are the same. Habit may approximate disease with symptoms of sclerosis; certain symptoms are acquired by habit even without the consent of the patient, and may actually assume the characters and proportions of disease. The real pathological condition in nervous diseases is not known but we may frequently arrive at the truth by comparing our theories with what is actually known. The relationship existing between muscles and nerves must be normal; if however, this correlation is disturbed, as when the flow of the fluid is interrupted by any cause. or have along with other abnormal manifestations as illustrated by the phenomena observed in the "jerks" when persons otherwise normal become so excited by some change in the normal flow that explosions take place in the form of most violent muscular contractions, so violent as sometimes to result in death. This disease especially attacks females and emotional males.

In diphtheritic paralysis we assume that the true nervous conductors and central cells are disabled or when the paralysis is cured another set is grown in their place. But the point that the speaker would especially impress on our minds is that the actual condition in true lesions of the nervous system is approximated by the so-called functional nervous disturbances of the body.

Dr. Whittaker remarked that he must regard such cases as more properly belonging to *chorea major* a sub-variety of hysteria. The extreme degree distinguishes it from ordinary chorea or *chorea minor*. It is seen especially after religious over-excitement in our times. Chorea may arise from imitation in children, as seen by the occasional examples of entire schools becoming attacked. Punishment will often put a stop to it. Usually woman and children are regarded as the only victims, but even the strongest men may lose their balance during periods of great nervous excitement. The panics of armies and the easily swayed excitements of crowds are the bone of imitation in grown up children.

Dr. Reamy mentioned two instances coming under his own observation when the movements were so grotesque that no one would believe that such a thing was possible until he had seen them. One was a young lady, sixteen years of age when it developed from chorea minor to chorea major. This patient would bend over so that the hands and feet approximated and then spin like a top. This condition lasted six weeks. The cause was menstrual difficulty. The other case occurred in the same vicinity two or three years previous.

Dr. Palmer will read a paper at the Academy of Medicine, on the night of the 20th inst., on the subject of "The Nature of Dysmenorrhœa."

CINCINNATI MEDICAL SOCIETY.

Meeting of February 21st, 1882.

GUSTAV BRÜHL, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

Dr. A. M. Brown reported the following case of

Myelitis.

On Tuesday, January 18th, 1881, he was called to see the patient, a colored man, aged 61, six feet in height, strong in muscle but not fat, temperate in his habits, and, until this attack, apparently sound in health. He had been taken sick on the previous Saturday with what he supposed to be an affection of the kidneys, but had continued to attend to his business, and even on that morning had gone down town to get some one to fill his place, which was that of attending an elevator in a public building.

The Doctor found him lying on his back with his feet extended and an anxious expression of countenance. He complained of pain in the region of the kidneys and in the legs, priapism had been present since Saturday, when he was taken sick. As he had not passed water for twenty-four hours, a flexible catheter was introduced and a pint of urine drawn off. The bowels were constipated, pulse 100, temperature 99⅗°, no tenderness on pressure over the spine.

Qninine and morphia were given during the day and bromide of potash with chloral at night which gave him some rest.

On Wednesday the lower extremities were completely paralyzed and the priapism continued. The breathing was hurried and hiccough very persistent. As no urine had been passed the catheter was again used.

On Thursday the paralysis had extended upwards and the pain in the legs increased. There seemed to be an anesthetic condition of the skin, but very acute pain on deep pressure. At 9 o'clock p.m. respiration was very difficult, pulse so rapid it could not be counted, temperature 102°, and deglutition almost impossible. Death occurred on Thursday night. Priapism was present throughout the whole course of the disease and delirium toward the close.

At first only the muscles of the bladder and urethra and the sphincter ani were affected, then, as the inflammation extended, the muscles of the lower extremities and finally those of respiration were involved.

Dr. Carson, who had seen the case with Dr. Brown, said that it presented all the well marked signs of myelitis. In this case, as in all others of its kind, treatment did not seem to have any effect except to mitigate, in some degree, the suffering. Dr. Holdt died from the same cause. He recognized the invasion of the disease in the finger, from which it extended and terminated in eight days. The inflammation seemed to be more diffused in his case than in this one of Dr. Brown's.

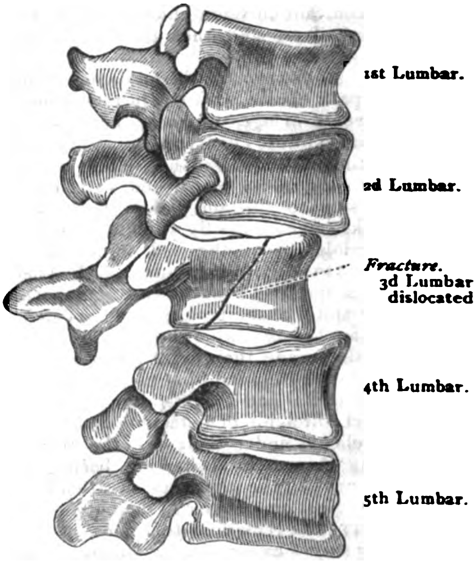
Dr. John Davis called the attention of the Society to the use of herniaria glabra in affections of the bladder and prostate gland and referred to several cases in which he had prescribed it with very decided benefit.

Correspondence.

FRACTURE AND DISLOCATION OF VERTEBRA.

Editors Lancet and Clinic:

The case of fracture and dislocation of the third lumbar vertebræ, Charles G. Griffiths, which I reported in the Lancet and Clinic of September 27th, 1879, has so far recovered, a little over three years after receiving the injury as to be able to act in the capacity of salesman in his brother's confectionery without any artificial support whatever, and never uses a cane or crutches unless he walks a long distance. For extent of injury see cut, and for full particulars in regard to the case Lancet and Clinic, of Sept. 27th, 1879, read before and published by the unanimous vote of the Zanesville Academy of Medicine.



Isaac W. Chisholm, M.D.,
New Concord, O.

Dr. William Murrell, Lecturer at the Westminister Hospital Medical School, has been appointed the additional Examiner in Materia Medica in the University of Edinburg, in place of Dr. Lauder Brunton, who has resigned.—*Medical News.*

Selections.

MEDICINE.

The Influence of the Sexual Apparatus on the Vocal Organs, and on the Formation of the Voice.—Read before the International Medical Congress, at London, by Dr. Léo Zayer, of Brussels.

I am permitted, gentlemen, to approach before so competent an assembly as the present, a subject upon which many of you, thanks to a long and fruitful experience, could make communications more worthy of interest; but if I have chosen such a communication, it is especially to get the members of this section to publish their personal observations on this subject. I propose to treat of the influence of the female sexual apparatus on the vocal organs, and on the formation of the voice. These relations are well known, and if on numerous occasions laryngoscopists have had occasion to observe the intimate relations which unite these two important apparatuses, other practitioners have also directed their attention to this point, and have made most interesting observations of this sort in their writings.

I will commence by running rapidly over a list of those authors who are occupied with this subject, and who have been to a certain extent our imitiators. I am obliged to mention in the first rank Hippocrates, who saw into these relations when originating the word "hysteria;"—he said "*mulier tota in utero.*"

Nevertheless, it is only to-day since laryngoscopic studies have been developed—that this important subject has been truly investigated and comprehended. Let it be sufficient for me to mention: Turck, Gerhardt, Bruns, Ziemssen, Gibb, Morell-Mackenzie, Tobold, Fournié, Saoerk, Foval, Fauvel, Jinart, Maudl, Krishaber, Lewin, Nicholas Duranty, Schnitzler, Thaon, and others too numerus to mention. Amongst the other neurological or gynecological practitioners I will mention Kussmaul, Eulenberg, Landy, Chéron, Lécorclé, Thalamon, and especially Martineau, who are particularly occupied with this question, and have made it the subject of most special communications.

It is understood that the larynx complicated as it is in its anatomical structure, and in its physiological functions, is under the influence of the female sexual apparatus, which forms the principal "healing place" in the *ensemble* of the female nervous system.

We have already seen the uterine influence predominate over the physiological condition. At the age of puberty, for example, the development of the female sexual organs provoke a greater activity in the nutrition of the larynx, although less intense than with man, for, not only does the larynx increase in a vertical diameter, but the vocal cord becomes longer. There is an alteration in the pitch of the voice, and it is then said to be "changed." I ought to say that I have never found any observation on the extirpation of the ovaries in extreme youth, but it is probable that this operation would prevent this development, as happens with man after castration. There is no doubt but that the menstruation and pregnancy exercise a notable influence on the larynx. This influence is manifested under the form of neuroses of the larynx, which are seen to disappear spontaneously with a re-establishment of the organic equilibrium.

I treated lately two young girls attacked with a barking cough with slight redness of the arytenoid mucosa, with whom the cough ceased almost instantly upon the appearance of the menses.

Turck relates a case of passing aphonia which recurred at each menstruation. I have had occasion to treat an opera singer, who was attacked at each appearance of the menses with an hyperæmia of the laryngeal mucosa with exfoliation of the vocal cords, so that at first I believed that it was a more serious lesion. At the end of two or three days every derangement had disappeared, and the voice was again excellent.

As touching pregnancy, I have seen in a woman, disappear suddenly with conception, the sensation of a kind of hysterical ball in the larynx, whom I had been obliged to treat for many weeks for a chronic laryngeal catarrh. In another patient, a singer, pregnancy exercised an equally salutary influence on a chronic laryngeal catarrh of the most stubborn kind. Never has she been in as good voice as during the time of gestation.

If we examine now the general pathological condition of woman, we shall observe that in affections of the sexual apparatus, there are those of the ovaries and especially of the uterus, which exercise a predominating influence upon the larynx and the voice. To affections of the ovaries belong alterations of the glandular tissue, such as hyperplasia and neoplasms; those of the stroma, such as ovaritis, hemorrhages and hyperplasia; then periuterine lesions, such as periovaritis, retroperitoneal hæmatomatic.

In connection with the uterus, I will mention the mucosa of the uterine cavity, catarrh, hyperplasia, polypus, epithelial neoplasms, granulations, ulcers, etc., etc. I observed in two patients attacked with paroxysms of suffocation, the existence of little papillomata of the neck of the uterus, and removal of these little tumors soon caused a cessation of the reflex symptoms.

To these affections are joined those of the muscular tissue, derangements of the uterine cavity, and, indeed, the displacements and changes in the position of the uterus, such as versions and flexions on the one hand, descents and prolapses on the other.

It is precisely upon this point that medical literature furnishes us with the most characteristic observations. Everybody knows the case cited by Landry, where the aphonia of a patient affected with anteflexion of the uterus disappeared each time the organ was put back into place. Martineau in his "Traite" clinique des affections de l'uterus (1878), gives the description of two equally instructive cases:

Case I.—A patient was for almost a year affected with a cough dry and incessant, fatiguing her consequently very much—a cough which had resisted all treatment directed against it. Blisters, dry cupping, and other revulsive anodynes, opiates and antispasmodics, nothing could conquer this nervous cough. When the chronic metritis from which she was suffering was cured, M. Martineau made the patient wear a pessary and a hypogastric belt to combat the persisting anteflexion, and the cough suddenly ceased. If the patient from negligence or other motives did not put on the pessary or belt, and let the displacement return, the cough was not long in reappearing, to disappear as soon as the uterus was maintained in its normal position.

CASE II.—Madame C., in consequence of sudden and repeated imprudences, is attacked with a prolapsus and considerable anteversion of the uterus; health habitually good; neither chlorotic nor hysterical. Under the influence of the uterine displacement, paralysis of the diaphragm and walls of the abdomen, inability to make the slightest movements; aphonia and muteness. If the uterus is lifted gently with the finger and put back into place immediately, the voice returns and the respiration is re-established. These accidents recur when the organ falls back. Electricity recalls respiration and speech for an hour. Under the influence of chloroform respiration and voice return at once. All the accidents recur little by little as the chloroform becomes weak, but less and less quickly; so that at the twentieth day their return is not complete as at the end of five hours. The stupefacients (morphia, strychina), after a passing amelioration, are put aside on account of the accidents which they occasion, vomiting, etc. The uterine displacement increases, the uterus is horizontal in anteversion, the accidents increase, and all measures fail. However, every time the uterus is put back into its normal position, the patient can pronounce some words in a loud voice, whereas absolute dumbness returns at the moment the organ again takes its abnormal position.

Let us now mention the diffierent affections of the ligaments, the large ones of the uterus, those of the tubes, and lastly those of the vagina and the vulva. I have a lady with a continual sore throat which has occasioned frequent attacks of coughing; this lady was treated for a long time for an affection of the uterus, and independent of that for a chronic bronchitis. A laryngoscopical examination showed that the local treatment was not sufficient. I insisted upon an examination being made with the speculum. At the end, one of my confréres, a gynecologist of Brussels, discovered a little urethro-vaginal fistula which was about to close. A little while after, the vaginal pruritus and the desire to urinate, which she had shown, ceased.

I will now enter into a little more deeply, the manner in which the larynx plays a part in pathological conditions of the female sexual apparatus, and classify the lesions in three categories:

1. Disorders of sensibility.
2. Disorders of motility.
3. Disorders of nutrition and vascular disturbances.

As concerns the last I will say that I regard them in point of view of classification only. It is here that alternating hemorrhages of the larynx should be placed. This chapter is obscure as is every one that treats of visceral neuroses and nutrition in general. I will confine myself then to the first two neuroses. These present themselves partly in simple forms, and partly as complicated forms. In an absolute point of view of frequency, I believe that disorders of sensibility are conspicuous. Disorders of sensibility arise when the means of excitability or if the forces of existence undergo a change by one of the causes which we are about to enumerate. There is established then a disproportion between the force of excitation and that of reaction; and in the cases where the reaction is greater than the excitation, we find ourselves in the presence of "hyperæsthesia." The nervo-sensitive vibration, which results from the excitation gains its strength only after having spread itself out over the central ganglionic nerve cells. The conscious reaction then becomes excessive and surpasses its accustomed intensity.

Hyperæsthesia is the most frequent neurosis of the larynx. It constitutes one of the principal factors of the most of the other neuroses, such as paræsthesia, laryngeal spasm, uterine suffocation, nervous cough, phonophobia, etc., etc. Hyperæsthesia in its simple form is met with but rarely, and the laryngoscopist can ascertain it only when he observes an excess of reaction produced by the application in the larynx of an irritant whose effect is known. If the degree of the reaction is inferior to that which should have been produced by the excitation, we recognize hyperæsthesia or anæsthesia. Excitations obtain too quickly their power in the nervous centres, or do not react there at all. Therefore, the reaction remains inferior, or does not take place.

Hyperæsthesia and anæsthesia form equally a class of neuroses, which are designated under the name of paræsthesias, and to which we will return.

Chéron claims that anæsthesia of the epiglottis is a constant and pathognomonic sign of hysteria. Ziemssen and others have combatted this theory. According to Thorn, more or less complete anæsthesia of the epiglottis is met with only in one-sixth of the cases of hysteria. Moreover, anæsthesia can extend so well over the whole of the larynx as to become fixed in a determined form in some one of its parts. Often it is followed by diffuse or partial cutaneous anæsthesia. The co-existence of a cutaneous *plaque* of anæsthesia on the anterior surface of the neck is recognized.

Hyperæsthesias and anæsthesia with which homologous excitations (that is to say of the same nature) provoke heterologous sensations (that is to say of a different nature) are called paræsthesias.

These characters consist in the difference in the quality of the sensation which is here the result of an excitation. Whence comes at times the strange names by which patients designate what they feel? They complain of a burn, of a scratch, of all sorts of foreign bodies in their œsophagus; others say they feel the sensation of a ball, of cold, of an itching, etc., so that among the disorders of sensibility are especially paræsthesias of which a diagnosis is made.

We say that the physiological sensibility can undergo a change of intensity in the perception of an excitation; we then have to do with a *dysæsthesia.* When the intensity passes the normal limit in such a manner as to produce pain, we have hyperalgesia or neuralgia. On the contrary, when it remains below normal, that is, when the sensation of pain is destroyed, we then say that there is an analgesia.

Under the name of *paralgias* are comprehended the heterologous sensation which implicate particularly the sensation of pain. As yet authors have only made rare abservations upon this subject.

Let us now speak of disorders of mobility of the larynx. The affections of the female sexual apparatus influence the motor centres of the larynx by sympathy or by reflex action. As intermediaries we have the multipolar ganglion cells of the anterior cornua, which give origin to motor nerve fibres, found in the medulla oblongata and in the cervical position of the spinal cord, forming at the base of the head the centre of phonation. This influence produces a change in the excitability of the motor nerves of the larynx. A disproportion is established between the excitation and the reaction, that is to say, in the monument which results from it. There is a stronger or more feeble reaction than normal; in the former case a hyperkinesia, in the latter a hypokinesia. But as the movements produced are often irregular in nature, the expression "parakinesia," in most cases, can be substituted for that of "hyperkinesia."

To parakinesias, or hyperkinesias, belong those laryngeal spasms which show themselves with such violence that even death has been seen to result from them. Yet they are generally of no great danger. Tobold, apropos to these attacks, brings forward this peculiar circumstance, that patients having once suffered from them are in a terrible anxiety and fear of their return.

To this symptom is joined the spasmodic nervous cough, characterized by attacks of dry coughing, with whistling, sometimes, and with barking, or with a sharp cry, which ends in a paroxysm. Let us here mention the somnambulistic laryngeal spasm. According to Thaon, after having provoked the state of somnambulism, sounds can no more be emitted, if the finger be placed lightly on the larynx.

The most familiar neuroses of the larynx, provoked by one of the preceding causes, are those hypokinesias comprehended, ordinarily under the name of hysterical aphonia.

Amongst the paralysis of hysterical patients, that of the vocal cords is one of the most frequent. These paralysies are characterized in most cases by their irregularity, by their appearance and sudden disappearance, the absences of the successive muscular troubles of nutrition, by the complete integrity of galvano-muscular and farado-muscular sensibility.

There exist states of diminished or entirely abolished mobility, the result of an abnormal perception or lack of energy of the will, either real or imaginary. Reynolds calls them psychical paralyses.

Lately I have given my attention to a young girl of fifteen, who enjoyed good health. The larynx was in a perfect state, the vocal cords moved in an irreproachable manner. There was wanting only an impulse of the will to produce a sound. Every imaginable remedy was without effect, until a religious row happening to strike her imagination, her aphonia was relieved. After the disappearance of the aphonia, points of peripheral cutaneous anæsthesia appeared.

Let us now say a few words on the different forms of hypokinesia of the larynx. We believe that here are represented every degree from atonia of the vocal cords to complete aphonia. Cases are often observed where aphonic patients yet produce sounds when made to vocalize during a laryngoscopical examination; there are some who have a cough of a sonorous timbre, others can sing, and others have even been heard to *speak in their dreams during the sleep of hysterical aphonia.* There are paralysies in which Tobold has given the name of *phonic paralysies.* They are arranged under three different forms, according as the glottis is entirely gaping during phonation or only partly open, or according as there is only diminution of the vibrations of the vocal cord.

I will not here enter into details. The most important symptoms are recognized by laryngoscopical examinations. Disorders of respiration are also observed; and a case of hysterical paralysis of the posterior crico-arytenoidean muscles is recorded, which twice necessitated tracheotomy.

A phenomenon must be noticed here, which Gérhardt was the first to observe, and that is, that the vibrations which are felt by placing the finger on the larynx during phonation, are wanting in aphonia. The transverse arytenoidean muscle seems to be attacked principally, which prevents the juxtaposition of the arytenoid cartilages, and explains the frequency of bilateral paralysis in hysterical aphonia.

Another peculiarity of hysterical hypokinesia is the intermittent aphonia, in which remissions and exacerbations are characteristic. Tobold tells of a patient who for seven years spoke from the hour of her waking until ten o'clock in the morning in a loud, clear voice, and then without any apparent reason, lost her voice for all the rest of the day.

Eulenburg saw the voice of a patient disappear from noon till four o'clock every day. A laryngoscopical inspection discovered in the free intervals in both cases, facility of movement, and vibrations of the vocal cords in a perfectly normal position. Thaon says another characteristic of hysterical aphonia is often giving a variable laryngoscopic image from day to day.

In the third and last nosological form are arranged disorders of *co-ordination* of the vocal organ, the *lalo-neuroses* of the Germans.

According to Kussmaul, hysterical patients often lose not only their voice, but the faculty of speaking, for minutes, hours, days, weeks, and even months. He tells of a cook who was taken that way often during the day, sometimes being unable to speak a single word for hours. All sorts of remedies were administered without success. Some one told her to pronounce at each attack, in a low voice, the holy and sacred words, "God the Father, God the Son, God the Holy Ghost," and then to turn around and cross herself and say "this is for you," (to the devil) and this remedy was always efficacious.

A lady thirty years of age was attacked with hysteria and paralysis of the legs and the left arm. Sometimes she lost her voice for hours and entire days. Pressure on any part of the lateral regions of the neck restored speech. After leaving Kussmaul, she lost her speech altogether. For a whole year she could be understood only by writing. At last her right arm became paralyzed also; she then could express her desires only by touching the letters of a large alphabet with a stick. Pressure on the neck was of no more avail. Kussmaul had the patient, who was much attached to him, taken to his hospital, gave her a pleasant room, prescribed an insignificant remedy from which he promised a sure success. At the end of eight days there was such progress that the patient spoke as before. She could use her right hand to draw, write and do handiwork. Six months afterwards she was compelled to go home. The journey fatigued her much. She had paralysis of the bladder. The right arm was permanently paralyzed, and in a few months she succumbed with symptoms of diffuse myelitis.

In these classes of affections the phonic apparatus remains intact, and that which serves for a communication between speech and thought is equally so. We have then to do with an impediment between the image and the muscular action, or else the excitation in the cortex of the brain is too weak to cause a translation of the thought into words.

In such cases moral treatment can often re-establish the equilibrium, which has momentarily been destroyed.

Finally, we may say, that the larynx, on account of its complicated muscular arrangement suffers when there is present any general disorder of nutrition. It is not surprising then that general weakness should bring about disorders of the voice, even when the general weakness is of no particular importance of itself.

In regard to the therapy, diet, etc., of such cases as I have spoken of, the first thing essential is to find the cause of the illness, because that being known we may combat it with some hope of bringing about a permanent cure. "*Sublate causa Tollitur effectus.*" — *Revue Mensuelle de Laryngologie d'Otologie et de Rhenologie.*

ACTION OF PILOCARPIN IN CROUP AFTER TRACHEOTOMY. — In connection with recent cases which demonstrate the good results obtained in diphtheria by the employment of pilocarpine, I have the honor to communicate the report of a case which is a confirmation of it under a new form, and which contributes, in my opinion, to settle briefly the mode of therapeutical action of the medicine.

On Monday, July 4th, I was called in consultation at Kerentrech by my friend Dr. Duliscouet to see young L., six years of age, affected with well marked croup. The situation was so grave that tracheotomy was deemed immediately necessary. We had at hand only one canula, a little too large, but it would have taken too much time to have sent for another. Its introduction into the trachea was tedious and difficult; one moment we believed the patient dead. At length after a struggle of fully half an hour we had the happiness of calling him back to life.

Tuesday, 5th.—The night had been safely passed. The cleansing of the canula had been intelligently done by the parents. Temperature 39°. I had read the afternoon before the interesting remarks of Dr. Le Reboullet in the *Gazette Hebdomadaire* (May, 1881); I told my colleague of it.

The same evening the respiration having become harsh and embarrassed, M. Duliscouet injected under the skin of the neck five milligrammes of chlorhydrate of pilocarpine in a gramme of distilled water. Five minutes after, abundant salivation occurred; a spell of coughing expelled by the canula a quantity of mucus and false membrane. A perfect calm succeeded and continued during the night.

Wednesday. 6th.—The child appeared to be doing well. Temperature 38.2°; respiration easy. The little patient took his food without trouble; he was sitting up playing in bed.

We nevertheless practiced morning and evening a subcutaneous injection of five milligrammes of pilocarpine. Every time after some minutes violent spells of coughing occurred with the expulsion of mucus and false membrane through the canula.

Thursday 7th.—The night had been bad. The child was much troubled and restless; temperature 38.5°, respiration more wheezing and expectoration more difficult. M. Duliscouet, however, seeing no very bad symptom, abstained from making as on the preceding days an injection of pilocarpine. At two o'clock in the afternoon the father came in haste for us. We found the child in a state of advanced asphyxia; the look fixed, face pale and livid, lips purple, extremities cold, etc.

Both canula were at once removed. We vainly attempted to extract with a pair of forceps a large piece of false membrane that had appeared in the trachea. The situation seemed desperate. An injection of pilocarpin was given by M. Duliscouet upon the front of the chest. The child was seized with a violent coughing spell and expelled through the tracheal wound a great many pieces of false membrane bathed in mucus. One piece larger than the rest presented the appearance of a bronchial tube and branches. The efforts of coughing lasted thus nearly half an hour, expelling every time pseudo-membranous debris. Gradually the face of the child became colored, showing great relief. At half-past three o'clock everything was doing well.

In the evening another injection of five milligrammes of pilocarpine was followed by the usual good effect.

Friday, 8th.—The child had slept perfectly. There was no fever. Expectoration was purely mucus, a little thick but very easy. A last injection was given as a precaution. In the afternoon the canula removed as a trial was entirely removed in the evening. The next day and the following days the larynx became freed at the same time that the tracheal wound closed. From this time on the case proceeded without interruption.

We are convinced (Dr. Duliscouet and myself) that tracheotomy alone would not have saved our little patient, and that the honor of the cure was due to the repeated injections of pilocarpine. It seemed to us from every evidence presented that the beneficial action of pilocarpin is due to the bronchial hypersecretion that it induces and the expulsion of false membrane which obstructs the respiratory tract.—*Journal de Medicine et de Chirurgie.—Canada Medical Journal.*

SCROFULA AND TUBERCULOSIS.—The *Medical Times and Gazette* says that M. Grancher recently made to the Société Médicale des Hopitaux of Paris an interesting communication on the above subject. The following are his general conclusions: 1. Tubercle of a fibro-caseous neoplasm, the development of which takes place in successive stages, during a longer or shorter period; this complete evolution may be accomplished in a few months, or it may last throughout the whole of life. It may, however, be arrested during the earlier stages, and never get beyond them. 2. Pathological anatomy and experimental pathology are to-day agreed to include under the term tuberculosis the greater number of affections called scrofulous, as *local* tuberculoses. 3. Lupus and superficial inflammations of the skin and mucous membranes, the last resort of those who persist in regarding scrofula and tuberculosis as distinct, will probably be included in the same order in due process of time. 4. The necessities of practical medicine, which, after all, must first be reckoned with, do not permit all tubercular affections to be confounded together; on this account it is convenient to retain the word "*scrofula*" for those tubercular affections which are very slight and generally curable.—*Med. and Surg. Reporter.*

GOLTZ ON THE FUNCTIONS OF THE BRAIN.—Goltz (*Verrichtungen des Grosshirns; Pflüger's Archiv für Physiologie*, Bd. xxvi., Heft 1 and 2) publishes a further series of experiments on the cerebral hemispheres of a dog, in which, instead of following his old method of destroying the cortex with a stream of water, he has established the lesions by means of a White's boring machine, the construction of which is described. Several chromo lithographic plates are given of the lesions and the symptoms which were observed in the different animals experimented on.

The general conclusions he arrives at are:

1. The hypothesis of circumscribed centres for special functions in the cerebral cortex is untenable.

2. There is no area of the cortex exclusively concerned with sight, hearing, smell, taste, or touch.

3. It is impossible by any circumscribed lesion of the cortex to produce permanent paralysis of any muscle, or remove it from the influence of the will.

4. The vital manifestations which we regard as indicative of intelligence, feeling, emotion, instinct, are not dependent on functionally differentiated cortical regions.

5. Destructive lesions of the frontal regions of the hemispheres cause defects which differ in certain respects from those caused by lesions of the occipital regions. These differences depend probably on simultaneous lesion of the conducting tracts which lead to the crura.—*Brain.*

TOXIC ACTION OF SALIVA.—M. Griffini has undertaken to repeat the experiments of MM. Pasteur and Vulpian on the toxic action of saliva injected under the skin, and has communicated an article on the subject to the *Archivio per le Scienze Mediche*, t. v. He obtained both pure and parotidean and mixed saliva, and he injected both fluids beneath the skin in rabits. He still believes that pure parotidian saliva is perfectly inoffensive, that ordinary mixed saliva filtered well through porous plates, so as completely to prevent the passage of microbia, does not produce any local gangrenous changes, but a general infection of the blood, resembling in all essential respects septicæmia. He has satisfied himself that it is the saliva, and not the microbia that it contains, which produces the septicæmic condition. Mixed unfiltered saliva contains much more toxic constituents, due probably to commencing putrefaction or to fermentation in the buccal cavity; hence, when this is subcutaneously injected, gangrenous complications occur with necrosis of the tissues and ordinary septic accidents due to the resorption of gangrenous products. M. Griffini considers that his experiments prove that the toxic action of saliva is due to a non-organized ferment.—*Lancet.*

TRICHINOSIS.—In a recent instructive lecture on the subject of trichinosis, M. Germain Sée, distinguished four clinical types under which the symptoms may manifest themselves. The first is the gastro-intestinal form, in which the affected individuals are seized with grave digestive troubles without apparent cause, epigastric discomfort and sense of distension, nausea, and vomiting. The times of the vomiting vary; sometimes they occur on the day on which the trichinous food was taken; sometimes they are delayed for four or five days. The vomiting is usually accompanied with diarrhœa, sometimes choleriform in character. Such symptoms, if slight, may be readily mistaken for a simple indigestion. If the nature of the disease is, however, suspected, the diagnosis may readily be made by the discovery of the entozoa in the stools. When the diarrhœa is excessive the symptoms may resemble those of cholera, but two distinctive characteristics are the excessive perspirations and considerable muscular prostration, which may even precede the onset of the diarrhœha. In the second, or rheumatoid form, muscular pains are the dominant symptom; muscular exertion is painful, and causes fatigue. Towards the eighth day the muscles become swollen, hard, and tender, and the flexors are always more affected than the extensors, and from the swelling of the muscles, shortening, and even a flexor contracture, may result. Painful trismus or difficult deglutition may be the effect of the presence of the trichinæ in the muscles of the jaw and pharynx, and the affection of the laryngeal muscles may change the voice, and that of the intercostals and diaphragm may cause a painful dyspnœa. With these are spontaneous pains, often severe, irregular in distribution, not corresponding to the course of the nerves, and constantly mistaken for rheumatism. In this form, also, there are usually initial gastro-intestinal troubles, which (as well as the prostration) should always arouse suspicion. The third and most characteristic is the œdematous form. The patients make their appearance with swollen faces, particularly the eyelids, and they complain of extreme prostration. The swelling may be bilateral or unilateral, and in the latter case is pathognomonic. This œdema, with normal heart and urine, with muscular prostration and initial gastro-intestinal troubles, should leave the diagnosis in little doubt. The last is the typhoid form, between which and enteric fever there are several analogies. There is continuous fever, considerable prostration, some dyspnœa, and much muscular pain. Three distinctive symptoms, however, are the profuse sweating, the œdema of the face, which is present in nine out of ten cases of trichinosis, and the brief duration of the pyrexia, which ceases although the other symptoms persist. The last is the gravest form, and death may occur in the second or third week with delirium or stupor, and the general aspect of a severe case of typhoid disease.—*Lancet.*

EXTERNAL USE OF CASTOR OIL.—The London Medical Journal gives reports from various practitioners who have found purgative results follow the inunction of castor oil. One writer states that he has frequently applied this oil to the abdomen under spongio-piline or other waterproof material in cases where the usual way of administering by the mouth seemed undesirable, and with the most satisfactory consequences. In a case of typhoid fever, also, half an ounce of castor oil was applied in this manner, under a hot water fomentation, the effect of this being, as represented, to relieve the constipation and tympanitic distention that had been present without undue purging or irritation of the bowels.—*Am. Medical Weekly.*

PNEUMOTHORAX.—Text-books of physiology describe the thorax as an air-tight box containing the heart, lungs, and great vessels; and, after a fashion not particularly clear in any single work, an attempt is made to demonstrate the bearing of this fact on the progress of various chest complaints. The importance attending a thorough comprehension of the physics of the pleural cavity, is probably not fully appreciated by students until they attempt to apply in the wards of the hospital the theories learned in the lecture-rooms of the college. Nor, probably, is this difficulty ever more apparent than when a hesitating clinical clerk is suddenly required to explain the *rationale* of pneumothorax. Rarely is an intelligent and at the same time intelligible reply forthcoming to the question, and we remember more than one case in which *not any* scientific or appropriate description has been elicited.

The question is not abstruse, either; but it demands a certain amount of clear thinking, added to an accurate preliminary comprehension both of the anatomy of the lung and pleura, and of certain elementary mechanical principles. The whole matter, however, was, on Friday evening last, put before the members of the Clinical Society, by their President, Mr. Lister, with such clearness and practicality that we seek no excuse for describing the experiment he referred to. The subject of discussion was pneumothorax, and Mr. Lister said the manner in which he was accustomed to demonstrate to his classes the gravity of the condition was the following: Into the bronchus of a lung obtained from an ordinary butcher, he inserted a glass tube, connecting with this, by means of India-rubber tubing, a hand syringe. Then, with a pair of scissors, he incised the surface of the lung, and on pressing down the piston of the syringe, air passed freely through the wound. On attempting, however, to withdraw the piston, the most considerable force even was found insufficient to do more than just move it, the opening in the lung at once closing and preventing the return of air.

The application of this ingenious and forcible illustration is clear. During life, the lung hangs in a chamber to which air can only enter by abnormal channels. In a condition of pneumothorax such opening is usually produced by a rent (how caused we need not stay to inquire) in the visceral layer of pleura, and we are told on Mr. Lister's authority, that such openings are usually valvular. With every inspiration, then, air will pass from the lung through the opening into the pleural sac, in which, as there is no other mode of exit, it must necessarily be confined. Also, as the wound in the pleura refuses to allow a return current of air through it, the quantity in the chest increases with each breath that is taken, and in this way it is quite easy to understand how the symptoms of pneumothorax may rapidly assume the most urgent character. Treatment by removal of the contained air with a small trocar and cannula produces relief by reducing the pressure set up by the contained gas, but where this is slowly accumulated and long retained it may give rise to most considerable displacement of organs without immediate urgency of symptoms.

Occasionally it happens that cases of pneumothorax undergo spontaneous recovery. Several such were instanced on Friday at the meeting referred to above. But this is a most favorable termination, and is due to the occurrence of some fortuitous events—such as prompt closure of the opening by lymph, and subsequent absorption of the intra-pleural air; or to the fact that the disposition of the lesion permits a *to-and-fro* current of air through it, whereby confinement of the gas is not set up, as proved by a double amphoric sound; or to the efficacy of prompt surgical measures, etc. It is not our intention to dilate on this point now, however; we wish chiefly to reproduce as nearly as possible Mr. Lister's admirable illustration of the meaning of pneumothorax, from a feeling that it may serve to help many others than those whose privilege it is to receive instruction direct from its author.—*Medical News.*

Sulphide of Carbon and Iodoform in Phagedænic Ulceration.—From the *Revue Médicale* we note that Dr. J Chéron, at the Hospital of Saint Lazare, employs the following solution: Sulphide of carbon, 30 parts; iodoform, 5 parts. Iodoform dissolves readily in carbon sulphide, and the rival odors are mutually weakened by association. The pain is less severe than when the sulphide of carbon alone is applied, and it ceases as soon as the liquid has evaporated. It is best applied with a glass brush. Dr. Chéron has seen cicatrization speedily result in cases which had proved rebellious to all the usual treatments. —*Medical and Surgical Reporter.*

Cherchevsky on the Laryngeal Crises of Locomotor Ataxia.—(*Revue de Médicine*, July, 1881). The author describes eighteen cases of tabes, in which laryngeal crises occurred. He classifies the latter in three groups, according to the intensity of the symptoms:

1. In the milder form there occur fits of coughing very like those of whooping-cough, consisting in a series of rapid short expiratory efforts, followed by a whistling inspiration. The duration varies from a few to ninety seconds. The expectoration is very scanty.
2. In the second group the cough is much more violent, and the external manifestations (congestion of the face and eyes) much more marked. The crowing inspiration louder and more difficult. Other symptoms, such as headache, nausea, vomiting, etc., accompany the fit. The duration is longer; five to ten minutes.
3. In the severest form there is complete apnœa, with symptoms of asphyxia, unconsciousness, epileptiform convulsions. There may be local prodromal symptoms before the fit. Its duration may extend to half an hour, or even several hours.

The laryngoscope reveals no local change; and the time and number of fits varies much in different cases. Post-mortem appearances in two cases pointed to atrophy of the vagus and accessorius roots, and of the posterior pyramids, besides the usual tabetic alterations in the cord.

In the majority of instances the laryngeal crises appeared along with the early symptoms of tabes; and occasionally formed the only prominent symptom for a considerable time.—A. de Watteville.—*Brain.*

Meyer on Diphtheritic Paralysis.—Paul Meyer (*Virchow's Archiv*, Bd. lviii. Heft 2) describes the appearances he has met with in a well-marked case of diphtheritic paralysis. He has found that the peripherical nervous system exhibits well-marked signs of parenchymatous neuritis, the characters of which he describes in detail and figures.

The alteration was best seen in the branches to the diaphragm and to the abdominal muscles (including the cremaster). Next to these came the nerves to the ilio-psoas, deltoid, triceps; then those of the gluteii and abductors of the thigh. After these came the nerves to the quadriceps, and the muscles of the forearm and leg. In general the alteration is very diffuse, and there is no special predilection for any particular group, such as flexors or extensors.

Degeneration was also found in the cutaneous nerves, but to a less extent than in the motor branches.

The cranial nerves also exhibited well-marked signs of degeneration, specially well seen in the oculo-motor, abducens, and glosso-pharyngeal.

In the large nerve-trunks the generation was not so pronounced as in the nerves of the face and neck. The degeneration appeared to be inversely proportional to the calibre of the nerve. Degeneration was also visible in the anterior and posterior spinal roots, more particularly in the cervical and lumbar region than in the dorsal. The anterior roots were relatively more affected than the posterior.

Degeneration was also to some extent evident in the multipolar cells of the cervical and lumbar region of the cord. The cells of the posterior cornua were also affected to some extent.

The author concludes that the diphtheritic infection attacks the nervous system in general, both spinal and peripheral, and that there is no reason to regard the one as secondary to the other.—David Ferrier, in *Brain.*

The Utility of Strychnia as an Expectorant.—J. Milner Fothergill (*British Med. Jour.*) says: The experiments of Rokitansky have shown that strychnia is a powerful stimulant of the respiratory centres, and I have arrived at the same conclusion from experiments upon rabbits. When the respiratory center was paralyzed by aconite the injection of strychnia exercised a most potent influence in restoring the circulation. I have used it clinically with much success, when the respiration was embarassed, in acute bronchitis with difficult expectoration, in chronic bronchitis with emphysema, and when the right ventricle was dilated, it added to the efficiency of digitalis.

Vehicles for Absorption.—Dr. Vigier has observed that as the result of a series of researches he has made on this point he had found that lard is the best fatty body when medicinal absorption is desired, vaseline coming next, and glycerin next. This last, therefore is a bad vehicle when cutaneous absorption is in view, but an excellent one when we wish to avoid this; so that we may by its aid avail ourselves of the parasiticide action of corrosive sublimate without fearing the production of mercurial poisoning.—*Gaz. Hebdom.* —*Louisville Medical News.*

Cystitis.—℞ Acidi benzoici, sodii biboratis, āā gr. x; inf. buchu, ℥ij. This amount three or four times a day.—A. J. C. Skene, M.D.

This may almost be called specific in its influence in the earlier stages of cystitis, affording rapid and lasting relief. The diet should be carefully regulated, and the skin and bowels kept in active condition.—*Phil. Med. Times.*

SURGERY.

THE IODOFORM DRESSING IN SURGERY.—The undoubted value of the antiseptic dressing in the treatment of all wounds both of the surface and of the cavities of the body, whether their occurrence be accidental or intentional, is at the present day one of the accepted truths of modern surgery; and it has been a matter of regret to many, otherwise favorably inclined to the new system and willing to sanction the truth of its theories, that the application of this dressing should hitherto have been encumbered with many wearisome and difficult details, which made its renewal a source of annoyance at all times, and occasionally prevented its application entirely, as where, from the anatomical position of the parts involved, it was impossible to secure a thorough and complete exclusion of air and foreign influences without causing serious discomfort to the patient. Moreover, many of the disciples of Lister have been seriously shaken in their faith by the rather frequent supervention of carbolic acid poisoning, the cases reported being usually given on the best authority and with so complete a clinical history as to prevent the slightest doubt in regard to the cause of death in the minds of those even who were rather prejudiced in favor of carbolic acid and the materials imbibed with it; and the violent stand taken against it within the last six months by one of the most eminent of modern ovariotomists as well as the candid admission of Lister himself, that the spray was after all not absolutely necessary, have not tended to reassure many of the followers of what was for a long time considered as the greatest surgical triumph of the present generation.

It was, therefore, a most welcome discovery to all believers in the noxious influence of septic materials, that iodoform, applied in substance to the free surface of wounds, acted equally as well as carbolic acid and, indeed, possessed certain most important advantages not shared by its predecessor, and the results thus far obtained with it have not only been most gratifying in themselves but have led to the fondest hopes of a brilliant future for the new remedy. It will therefore be of some little interest to the many who are following in their own experience the gradual progress of surgical science to hear from one who has a foremost claim to the merit of its introduction, and no apology is necessary for presenting briefly the following translation of an article recently published in Volkmann's series of Clinical Lectures, having for its title "The Iodoform Dressing," and for its author A. v. Mosetig-Moorhof.

"The preparation which is now known as iodoform was discovered by Serullas in 1822 and was called by him Superiodate of Carbon. It is obtained by treating alcohol with iodine in the presence of an alkaline hydrate, and its chemical formula is CHI_3. It has received other names such as Ioduret of Carbon, Iodate of Carbon, Superiodide of Formyl, and Tri-iodide of Formyl.

Dumas was the first to analyze Iodoform and found that it contained in 100 parts: Carbon 3,20, Hydrogen 0.33. and Iodine 96.47; an analysis that was confirmed by Mitscherlich.

Iodoform occurs in the form of lemon-yellow, shining, friable crystals, of a peculiar, intensely penetrating odor, and of a specific gravity of 2,000. It dissolves without any residue in 5½ to 6 parts of ether, in 20 parts of chloroform, in 75 parts of 90 per cent. alcohol, also in petrol-ether, in ethereal and fatty oils and in carbon disulphide. According to the investigations of Liebig, Thenaud and other chemists iodoform is insoluble in water, but Righini's experiments have shown that 1000 grammes of water at the temperature of 15° C. dissolve about 20 centigr. of iodoform. We do not as yet possess any useful and wholly indifferent menstruum for iodoform. At a temperature of 115° Cel. (239° F.) the iodoform crystals melt, forming a brown fluid, and by increasing the temperature this fluid is decomposed, liberating iodine *vapors* hydriodic acid and other products of decomsition, a black residue of carbon being left. Iodoform is perceptibly volatile at ordinary temperature and is distilled unchanged with the vapor of boiling water. By the action of acids, of acid extracts and of a solution of caustic potash in alcohol, it is decomposed forming iodide of potassium and formate of potassium. Chlorine changes it into chloroform liberating the iodine; heated with potassium it explodes violently. It is also acted upon by light, particularly by strong sunlight. Its purity for practical purposes may be tested by its complete solubility in 70 parts of absolute alcohol and by the absence of any reaction when water mixed with it is filtered and added to a solution of nitrate of silver.

After its discovery in 1822 iodoform remained unknown to the medical profession until it was recommended by Bouchardat for lymphoid inflammatory processes, for goitre and for amenorrhea. Maitre comes to the following conclusions in regard to it in a work published in 1857: (*a*) Iodoform may replace iodine and all of its other preparations, because of the large percentage of iodine it contains. (*b*) Its absorption into the organism takes place very rapidly and easily. (*c*) Unlike the other preparations of iodine it produces no local irritation, causes no increased diuresis, nor any other symptoms which occasionally make it advisable to suspend the administration of an iodine compound. (*d*) In addition to the general action of iodine, iodoform possesses a specific property of diminishing pain. (*e*) The diseases for which it has been used and for which it is to be particularly recommended are scrofula, rhachitis. endemic goitre, syphilis, certain affections of the bladder and prostate, skin diseases, enlargement of the lymphatics, phthisis. (*f*) Iodoform may be taken internally by adults, in quantities aggregating three grammes daily, without any danger.

Mouzard in *L'Union Médical* for 1857 ascribes to iodoform all therapeutic virtues of the other iodine preparations and prefers it to these on account of its safety of administration, its strength and the absence of any irritant quality. He believes that it appears in a very few hours after its administration in the saliva and the urine and may be found in these secretions several days after its use has been discontinued. In 1862 there appeared the monograph of the Italian pharmacist Rhigini, the first essay that treated of the chemical, physiological, pharmaceutical and therapeutical properties of the drug, an essay that received the prize of the Belgian Academy. Rhigini called especial attention to the rapid and easy absorption of iodoform by the animal body, and found that after its internal administration its presence could be shown in the blood, saliva, perspiration, milk, feces, liquor amnii, and urine. It is somewhat surprising that Rhigini should deny its presence in the urine, when it is applied externally; from which observation he was naturally led to the conclusion that the absorption of iodine from the skin was exceedingly slight in amount. As Moleschott observes, this mistake is obviously due to the relatively tardy appearance of iodine in the urine after its external use, a fact that was overlooked by Rhigini. According to this latter observer the carbonates of the urine are increased by the use of iodoform. The urine has, when recently passed, a straw yellow color and the odor of cabbage; it reddens litmus paper. He found that this urine, preserved for several days at a temperature of 77° F. showed no signs of decomposition, no turbidity, no change from urea into carbonate of ammonia, but that it retained its light color and peculiar odor unchanged. This led Rhigini to a recognition of the anti-fermentative effect of iodoform, and this observation was confirmed by many subsequent experiments. He also emphasizes the fact that its internal administration does not lead to emaciation but rather to an increase of the panniculus adiposus, and that it does not irritate the mucous membrane of the mouth, of the œsophagus, nor the mammary glands. It causes an earlier appearance of the catamenia and increases the flow in direct proportion to the quantity administered. It is to be recommended in tuberculosis, scrofula, anomalies of menstruation, tumors, panaritium, disturbances of secretion in the uterus and mammary glands, in impotence, ozœna, various forms of ophthalmia, periostitis, obstinate skin diseases, tuberculosis of the skin or mucous membrane, in deep ulcers and carcinoma.

The labors of Rhigini opened the way for iodoform and from that time on, particularly however after 1868, we find continuous references to it in current literature, in which both its external and internal uses are frequently discussed. A careful review of all these publications shows that iodoform has thus far found a useful application, firstly, as a promoter of resorption of all fluid and solid exudations, as also of cystic and adenoid tumors; secondly, as a specific for tubercular, syphilitic and gouty processes; thirdly, as an agent which favors the heathy action of ulcers and stimulates the growth of granulations; fourthly, as an anodyne and local anæsthetic in neuralgia, painful ulcers and burns; fifthly, as an anti-mycotic in intermittent fever. Thus we find that in the last few decades iodoform has been very widely used and has established its claim to a place in the materia medica of internal medicine, syphilis and dermatology, ear diseases, laryngeal affections, and gynecology. However it had not been used in surgery as a dressing for wounds, neither for those caused by operative interference, nor those produced in other ways. The experiments bearing on this point were begun by the author in the early part of 1879 and have been continued since then without any interruption. He was encouraged to persevere by the very glowing accounts of Moleschott, in whose article it was easy to recognize a glowing enthusiasm and he is prepared to concur in the statement of that author, that "This remedy has before it a great future."

His first contributions to the literature of the subject were published in 1880 and 1881 and he soon had the gratification of seeing the fruits of his labor. In January of 1881 Billroth of Vienna and Gussenbauer of Prague began to test the value of the new dressing. An account of the very favorable experiences obtained in the clinic of Billroth was given by Mikulicz at the Congress of German Surgeons in Berlin, and he was sustained in every particular by Gussenbauer. And now the territory of surgery as well was opened to iodoform, a territory of which it will doubtless remain master — until replaced by something better.

In regard to the physiological action of iodoform, this can be compared only to that of iodine, since, as already mentioned, iodoform contains 96.47 per cent of iodine, and yet there are between these two preparations some essential points of difference, which will become apparent in the course of this article, differences, which although difficult of theoretical explanation must yet be accepted practically. According to Binz, iodoform is dissolved by the fats of the body, no matter how it be applied and from this fatty solution iodine is gradually separated and combines with salts to form iodides and iodates. Hoggers, on the other hand, believes that the liberated iodine combines with albumen, and this is finally transformed to iodine salts. The method of absorption remains practically an unimportant point; it is sufficient to determine the fact that iodoform, after absorption, can only act by liberating free iodine. The more powerful action of iodoform when compared with other iodine preparations is explained by Moleschott on the ground that the former is freely decomposed in the blood and that the free iodine, being in a nascent state, develops greater efficiency. As stated by Mikulicz, we must therefore consider the local action of iodoform as a prolonged and constant action of iodine.

(To be Continued.) J.E.

TRIPIER'S AMPUTATION OF THE FOOT.—The results of Chopart's amputation through the transverse tarsal articulation are often somewhat disappointing. The caries for which the operation is performed may recur in the os calcis and astragalus, or more often the stump becomes everted and depressed anteriorily, so that the cicatrix is exposed to pressure and friction, and as a result ulcerates. Division of the tendo Achillis has been found ineffectual to prevent this displacement of the foot, because it is a purely mechanical effect, depending upon the fact that normally the os calcis is placed obliquely, forming the posterior extremity of the longitudinal arch of the foot, touching the ground only at the posterior extremity. When the anterior part of the arch is removed, as in

Chopart's amputation, the front of the os calcis is depressed and the weight of the body tends to push the astragalus down and downwards, and the shape of the os calcis leads to its eversion. A careful selection of cases, and using a boot specially designed to correct this tendency to displacement may prevent these ill results. But M. Tripier, of Lyons, has designed a modification of the operation which he hopes will remove all danger of them. Instead of two flaps he uses the oval method of amputation. Starting from the outer side of the tendo Achillis, and carrying the incision forwards below the outer malleolus, he encircles the foot opposite the tarso-metatarsal joint. He reflects the soft structures from the bones in the usual manner until able to disarticulate the os cuboides and scaphoid. He then detaches the periosteum from the under and back surfaces of the os calcis as high as the sustentaculum tali, and saws across that bone at this level, making the plane of the sawn surface at right angles to the vertical axis of the leg. The posterior tibial is to be cut as high up as possible, and the wound treated in the usual way. By this means the surgeon is able to examine the cancellous structure of the os calcis and can detect any latent foci of disease if such exist. The sawn surface of the os calcis being horizontal, it supports the weight of the body without any tilting, and on a broad surface. The soft parts are divided further back, shorter flaps being required than in Chopart's original operation, and it is thus sometimes practicable in some cases of injury in which Chopart's would not be. Mr. P. J. Hayes, of Dublin, has already practiced this operation on two patients, and speaks highly of the results. His paper on them, in the *Dublin Journal of Medical Sciences* for December, is illustrated with plates showing the line of incision, the line of section of the os calcis, the stump left, and the special instrument used by M. Tripier to peel off the periosteum.—*London Lancet.*

Subcutaneous Injections of Iodoform in Syphilis.—The *Centralblatt für die Med. Wissenschaft*, No. 44, reports that Dr. Thomann, having observed the good results attending the use of iodoform in the treatment of certain syphilitic manifestations, was led to try if similar benefits could not be derived from it in the form of subcutaneous injections. He made use of a solution containing ʒiss of iodoform to f ʒ v of glycerine, and commenced with doses of grs. ivss; finding that these were well tolerated, he gradually increased them to grs. xj. He selects, in preference, recent cases in which sclerosis has not as yet caused irreparable disorders in any of the organs, especially in the lymphatic ganglions.

After ten or twelve injections, made on different parts of the body, he has observed a marked retrocession in the the symptoms. No abscesses were formed, and only among a few patients were the injections followed by a slight sensation of pain, which, however, soon disappeared. The solutions used should always be freshly prepared.—*Med. and Surgical Reporter.*

Puncture and Aspiration in Intestinal Invagination.—We read in *Paris Médical*, Jan. 28th, 1882, that Dr. Godfrey has treated a case of intestinal invagination as follows: The patient, a man 37 years old, was vomiting a greenish-yellow liquid having a most offensive fecal odor. His abdomen was distended, and very tender to touch; and distinct fluctuation together with dulness was perceptible over the entire course of the colon. The umbilical region was somewhat tympanitic. Great tenesmus existed, and the efforts at defecation only resulted in the passage of a little bloody mucus. Having carefully ascertained that no hernia existed, the intestine was punctured, first in the left, then again in the right iliac region, the largest needle of a Codman and Shurtleff aspirator being used for that purpose. More than a pint of liquid, similar to that vomited, was thus withdrawn, and the patient felt somewhat relieved. Vomiting now became less frequent, and finally ceased. Morphine, first hypodermically, then by the mouth, procured sleep, and after three days the intestine had resumed its functions, and in less than a week the patient was again well.—*Medical and Surgical Reporter.*

OPHTHALMOLOGY.

Micrococcus of Trachoma.—Sattler confirms the gonorrhœal micrococci found by Neisser, also for trachoma, only here they are somewhat smaller than in gonorrhœal conjunctivitis. The location of these micrococci is in the trachomatous bodies. The contents of such a body brought into contact with the healthy conjunctiva of man excites in it trachoma. Sattler was able to obtain from trachomatous bodies pure cultures of micrococci, that, placed upon the healthy human conjunctiva, excited trachoma in it, which appeared at first as a slight follicular conjunctivitis, but which gradually increased into trachoma.

Along with the increase in size and multiplication of the parasites occurred infarction of the lymph vessels through the lymphoid elements found in the conjunctiva.

This natural injection of the lymph channels Sattler explains by increased pressure in the conjunctival connective tissue, as the result of connective tissue growth.

The further changes in the trachomatous bodies consist in growth of the walls of the vessels, which are finally obliterated, and in the production of connective tissue partly from the vessel walls, partly from the connective tissue capsule of the trachomatous body.

Blenenorrhœa neonatorum can under certain circumstances be produced by the secretion from a simple catarrh. Since, however, blenenorrhœa neonatorum carried to other conjunctivæ can likewise excite trachoma, we can explain the appearance of trachoma in places where no trachoma is to be found. We probably simply have to do with a gradual acclimatization of the micro-organisms transferred to another soil.—Heidelberg Ophthalmological Society.—*Centralblatt für prakt. Augenheilkunde.* W. W. S.

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Cincinnati, March 18th, 1882.

Miscellany.

ANÆSTHETICS FROM A MEDICO-LEGAL POINT OF VIEW.—Dr. J. C. Johnson, of Brooklyn, prsents certain conclusions in the *Annals of Anatomy and Surgery* which deserves careful consideration.

Anæsthetics do stimulate the sexual functions, the ano-genital region being the last to give up its sensitiveness. Charges made by females under the influence of an anæsthetic should be received as the testimony of an insane person is. It cannot be rejected, but the *corpus delicti aliunde* rule should be insisted on. Dentists or surgeons who do not protect themselves by having a third person present do not merit much sympathy.

Death from administration of chloroform after a felonious assault, unless the wounding were an unmistakably fatal one, reduces the crime of the prisoner from murder to a felonious assault.

The surgeon has no right to use chloroform to detect crime, against the will of the prisoner, But the army surgeon has a right to use chloroform to detect malingerers.

The medical expert, notwithstanding he is sent by order of court, has no to right administer an anæsthetic against the wish of the plaintiff in a personal damage suit to detect fraud.

Gross violations of the well-known rules of administering anæsthetics, life being lost thereby, will subject the violator to a trial on the charge of manslaughter.

A surgeon allowing an untrained medical student to administer anæsthetics, life being lost thereby, will subject himself to a suit for damages. What he does through his agent he does himself.

The physician who administers an anæsthetic should attend to that part of the business and nothing else. He should have examined the heart and lungs beforehand. He should have the patient in the reclining position, with his clothes loose, so as not to interfere with respiration; should have his rat-tooth forceps, nitrite of amyl, and ammonia, and know their uses, and when to use them, and how to perform artificial respiration.

Chloroform cannot be administered by a person who is not an expert to a person who is asleep without waking him. Experts themselves, with the utmost care, fail more often than they succeed in chloroforming adults in their sleep.—*Boston Med. and Surg. Jour.*

HUNGARIAN EXPERIMENTS ON ANTHRAX.—At the last meeting of the Hungarian Natural Science Society Dr. Rozsahegyi gave an account of some experiments on the prophylactic inoculation of anthrax, initiated by M. Pasteur. An attempt was made to communicate the disease to a series of inoculated sheep, and to others which had not been inoculated, and it was found that the death rate in the latter was 93 per cent, in the former only 1.45 per cent. If, however, regard was paid not only to the deaths which resulted from the infection of anthrax, but also to the total mortality from all causes during the experiments, this difference was found to be somewhat less, the mortality among the inoculated animals being 14 per cent, and among the others 94 per cent. The large mortality in the protected animals from other causes that the subsequent infection seems to show that the process of inoculation is not itself free from considerable risk, either directly or indirectly, by rendering other diseases more fatal. Another point of importance raised, but not answered, is the question, Within what time may the flesh and milk of inoculated animals be regarded as free from all danger of conveying the disease to man?—*London Lancet.*

THE ARTIFICIAL PRODUCTION OF ORGANIC FORMS.—The mimicry of organic forms by inorganic elements has often excited the attention of the curious, and it has been recently systematically studied, so far as chemical elements are concerned, by MM. Monnier and Vogt. Forms which closely resemble those of living organism, such as simple and tubercular cells, with septa and granular contents, may be artificially produced in a suitable liquid by the union of two salts, which form, by double decomposition, one or two insoluble compounds. One of the salts must be dissolved in the liquid, the other solid. These objects are formed equally well, whether one of the liquids is of organic origin (as sucrate of lime) or purely inorganic (as of silicate of soda). The resulting form clearly depends on the nature and viscid consistence and concentration of the liquids. Some viscid solutions, however such as gum arabic and chloride of zinc, do not give rise to them. The form which results is as constant for the same conditions as is the crystalline form of a mineral, and it may even be employed as a means of ascertaining the presence of a given substance. It promises to constitute a new and very sensitive form of analysis, and may thus be employed, for instance, to distinguish the alkaline carbonates, sesquicarbonates, and bicarbonates, the one from the other. The chief influence which determines the form, is the nature of the acid which enters into the decomposition of the solid salt. The sulphates and phosphates, under certain circumstances, give rise to tubular forms, the carbonates to simple cells. With certain exceptions, such as the sulphates of copper, of cadmium, of nickel, and of zinc, these pseudo-organic forms are only produced by the combination of those substances which are found in real organism. Sucrate of lime, for instance, give rise to such forms, while sucrate of strontia and of baryta do not. The pseudo-organic elements are surrounded by true membranes of perfect dialyzing power, allowing only liquids to pass. Their contents are heterogenous, and granules in the interior may be disposed in a special manner. They thus resemble absolutely the morphological elements of organized beings. It is highly probable that the inorganic constituents of living protoplasm play some part in determining the forms which the organized elements assume.—*London Lancet.*

BULLET IN THE BRAIN FOR SIXTY-FIVE YEARS.—Robert Elliot, of Carlisle, reports the case of a soldier who was shot in the left eye at the battle of Waterloo in the month of June. He fell and was reported dead by the man who stood next him when the wound was received. However, he rejoined the regiment at Paris, and being unfit for duty was sent to England. Dr. Elliot saw him for the first time thirty-three years after the wound was received, and after careful examination could find no evidence that the ball, which was said to have entered the left orbit, had made its exit from the cranium. Moreover, the man described sensations in the lower back part of the head which could be accounted for only on the supposition of the presence of a foreign body. This man died October 10th, 1880, sixty-five years after the bullet was lodged in his brain.—*Edinburgh Med. Jour.*, Dec., 1880.

PROSPECTS FOR CURE OF HEART DISEASE.—According to Dr. J. Milner Fothergill, the views of the medical profession as to the prospects for the future of cases of valvular disease of the heart are undergoing very considerable changes, in a direction opposite to the hopelessness with which they have been regarded in the past. Not every murmur which may be heard over the heart is a sign that the patient is destined to a sudden death from the action of the cause that produces the sound, nor is it always evidence of organic cardiac disease. It is a grave symptom, but its importance may be, and often is, exaggerated. It is only probably produced by deformity in the cardiac valves; but anæmic, aortic, and still more, pulmonary murmurs, are now generally recognized. Dr. Fothergill has cases in his own practice, of mitral murmurs which have existed for sixteen, fourteen, twenty-seven, and thirty-eight years, without developing any very alarming symptoms, and reports the death, between the writing and publication of his article, of a case of aortal regurgitation—a rapidly fatal form of disease—which had not preceptibly advanced during twenty-five years of excessive activity. He also notices cases of aortic obstruction of fourteen, sixteen, and eleven years, of which the first only has as yet died. In conclusion, he observes that under proper treatment, by which the prospects are profoundly affected, and with care, a life of activity is practicable in many cases, provided bodily exertion be avoided, or exercised moderately.—*Popular Science Monthly.*

A NEW SANITARY INSPECTOR.—Cats used as pointers to discover defective plumbing.

An experiment tried recently by a woman in Hoboken to detect the presence of sewer gas in her rooms was a topic of conversation among the Sanitary Inspectors at the rooms of the Board of Health yesterday. The woman had noticed an offensive odor in her parlor, and she went to the agent of the house to request that a plumber be sent to examine the drainage pipes. The agent told her the plumbing in the house was perfect. She went home and called in some neighbors, who thought sewer gas was escaping from the waste pipes. Acting on the suggestion of a friend, she sent out for some oil peppermint, and poured it into a stationary washbasin on the third floor. From the basin the oil passed down through a waste pipe behind a closet off the parlor. Very soon the odor of peppermint pervaded the parlor. The woman then went to the agent again, and told him she was convinced that there was a break in the waste pipe on the first floor of the house, at the time telling him of her experiment with oil of peppermint. The agent refused to send a plumber, declaring that the odor of peppermint was so penetrating that it would soon fill a whole building. After studying over the situation for some time, the woman purchased some oil of valerian and poured it into the washbasin upstairs. She then borrowed from her neighbors two able-bodied cats and placed them in the parlor. The cats snuffed the air in the room as if it were agreeable to them, aud they both went toward the door of the closet. When the closet door was opened for them they went in immediately and sprang upon a shelf, where they remained, purring and still manifesting unmistakable delight. The woman went to the agent's office and related what she had done. Although incredulou still, the agent sent a plumber with directions to tear away the lath and plaster in the closet at the point where the cats had rested in their hunt for the valerian. The plumber found behind the shelf the waste pipe completely disjointed. The break in the pipe was large enough to allow an unholesome amount of sewer gas to escape in the house. Some of the Sanitary Inspectors said yesterday that the experiment was new and decidedly ingenious. They thought that the cats might be used in a similar manner in this city to more advantage than in Hoboken. By employing their household pets as pointers, it was said, residents of the city might save themselves from illness, from poisonous gases, and also save the cost of employing engineers to examine the drainage in their houses.—*Ex.*

ICE-WATER.—The prevalent dyspepsia from which Americans suffer so much, and which is so apt to undermine the strength of the men and the bloom of the women of America, is in a large measure due, we believe, to the universal habit of drinking large quantities of ice-water. This essentially transatlantic habit has long been a specialty of which our American friends and travellers seem to be proud, complaining that they find the purest water in England undrinkable, from the difficulty of getting water to drink with lumps of ice floating about in it. Nothing can be more destructive to the utility of the process of digestion than this habit. There is, however, another danger inherent in this mode of introducing ice, to which attention has more than once been called by sanitary authorities in this country, and which, we note with interest, is now also attracting notice in America. It hardly needed the scientific experiments of Professor Pumelly—an authority whose name is singularly appropriate to the investigation—to prove again that the freezing of organic impurities and diseased germs does not deprive them of vitality, but only suspends their activity; and that frozen water is apt to entangle a large proportion of the floating impurities, which may be suspended in it; and that it is probably quite as easy to contract typhoid fever from impure ice, as from impure water. The habit of drinking ice-water is altogether a bad one, and may readily become a source of serious or fatal illness if the ice be impure.—*British Medical Journal.*

A TERATALOGICAL CURIOSITY.—According to the *Presse Médicale Belge*, two united children have been recently exhibited in Vienna which surpasses in interest the celebrated Siamese twins. They were born in 1877 at Lacona in the province of Turin. They have each a well-formed head, and perfect arms, and a separate thorax with perfect internal viscera. At the sixth rib, however, they unite, and there is but one abdomen, one anus, one right and one left leg. There is a penis and corresponding scrotum, but behind the latter there is a rudimentary male organ, by which a few drops of urine escape. From behind, two vertebral columns are seen, two sacrums, and three buttocks, the central one evidently being due to the fusion of two, and in it is a rudimentary anus. The true anus serves for both children. Each individual has power over the corresponding leg and not over the other; thus the right leg obeys the will of the right twin named Baptise, the left that of the other twin named Jacob. Walking is therefore impossible, although the legs are strong. Each child is said to possess a distinct moral personality. Sometimes one is laughing when the other is crying; one may sleep while the other is awake. Usually the head and face of each is inclined laterally, but if one is held perpendicularly the other becomes almost horizontal. The condition of sensation in the legs is not stated in the account.—*London Lancet.*

WHAT IS "BRIGHT'S DISEASE?" —Under this heading the London *Medical Times and Gazette* makes the following pertinent remarks: It is, we believe, currently reported and generally believed that an old fogy of the name of Bright, who was connected with Guy's Hospital some years ago, asserted that he had seen a number of patients, all having dropsy, with albumen in their urine, while after death their kidneys were found to be diseased. The symptoms and conditions he grouped together, and to them certain individuals still more silly than himself gave the name of "Bright's disease." But it is evident that this Dr. Bright had no gift of imagination, for he actually worked long and hard before he came to the trifling conclusions above referred to; beyond all, he could never invent his facts, nor had he the gift of twisting them about so as to prove any thing. In short, he was what Americans would call a "very or'nary cuss" after all. But see what has been done since his day! Why, his disease, though it is by the weak-minded still supposed to kill a large proportion of our fellow-mortals, has actually been improved off the face of the earth! First, it was found that the same condition of kidney would sometimes give rise to dropsy, and sometimes not; especially this was noted—that in the same individual dropsy might exist at one time, and not at another; so the dropsy was dropped as one of the necessary symptoms. Then it was found that albumen was not always plentiful in the urine; yea, that it was sometimes absent altogether; so the albuminuria has been got rid of as an essential feature in Bright's disease. Only one thing more remained, and that was the kidney disease, which has now apparently gone the way of all the rest; so that we now have the pleasure of contemplating a disease which no longer possesses any one of the characters by which it was originally distinguished. These are great achievements, doubtless; but destruction comes naturally to mankind. Look at the new theories constructed! Some of the wicked ones, we fear, would, with regard to these, say that the zeal which comes not of knowledge might be better employed even coining words than in building hypothesis on hypothesis—a kind of tower which has little chance of reaching to the heavens, or, indeed, attaining to any greater height than other fungoid growths similar to itself.—*Medical and Surgical Reporter.*

THE SENSATION OF THIRST.—Prof. Nothnagal contributed a very interesting and instructive article to a recent number of *Virchow's Archiv*, upon which the London *Lancet* comments, and from which we extract the salient points. It is well known that sensation of thirst expresses an insufficiency in the amount of waste in the organism. But is thirst referred to the mouth and throat? The scanty experimental researches on the subject teach but little. He relates a remarkable case, which throws some light on the question. A man was kicked in the abdomen by a horse, and knocked down, striking the occiput against the hard ground. He was not stunned, but could not walk, on account of the severe pain in the abdomen and back of the head and neck. Previously well, immediately after the accident he began to feel extreme thirst, and in the next three hours drank five pints of liquid. No injury to bone could be detected, temperature was normal, and pupils small. The local pain soon passed away, but the thirst continued. The thirst was unabated during the three weeks the patient was under observation. It was uninfluenced by treatment, and became more intense every day about noon. Nothing but large quantities of water relieved it, the amount taken daily varying from one to four gallons. The quantity of urine secreted daily was about three-fourths the amount of water taken, and its specific gravity varied from 1.002 to 1.010. The skin was moist. Nothnagel believed that the thirst must have been due to a central effect of the blow on the occiput. The probabilities, he thought, are that the thirst centre is located in the pons or medulla; though this is only speculation, since there were no symptoms sufficiently distinctive to accurately locate it.

WRITER'S CRAMP.—The treatment of functional spasmodic affections in general is so very unsatisfactory, that we should gladly welcome any substantial addition to our therapeutic knowledge from any quarter. M. Wolff, a German teacher of writing, has earned for himself considerable reputation by his skill in the treatment of this class of affections; and his success is attested by such authorities as Nussbaum, Bamberegr, Benedikt, Billroth, and Esmarch. Hearing of the beneficial results of his system, M. Charcot invited him to Paris, and placed under his care two patients, suffering from writer's cramp, who had been treated by himself and M. Vigouroux for some months without any improvement. M. Vigouroux has published the cases (*Le Progrès Médical*, 1882, No. 3), and mentions that, after being handed over to M. Wolff, the first was cured in fifteen, and the second in thirteen days. M. Wolff's system consists in a combination of gymnastic and massage. He makes his patients execute movements in all directions with the affected hand for half an hour to an hour and a half at a time, three or four times a day; and, in addition, the muscles involved are stretched more or less forcibly three or four hundred times daily. He also uses massages and friction, and attaches considerable importance to percussing the affected muscles. The most essential part is the extension of the spasmodic muscles. He thinks, if no improvement is apparent after five or six sittings, the case should be abandoned. The method is worth imitating, though, as M. Vigourous remarks, while M. Wolff generously explains his procedure, he cannot give us, at the same time, his experience, his practical skill, or that medical instinct which not only enabled him to divise his own method, but guides him in its application.—*British Medical Journal.*

A. M. OWEN, M.D., Professor of Surgery Medical College of Evansville, Indiana, Secretary Evansville Board of Health, Ex-President Tri-State Medical Society, Indiana, Illinois and Kentucky, says:

I have become so thoroughly convinced of the true merit of Listerine that I can unhesitatingly confirm its claims as a perfect antiseptic.

Since I ceased to use carbolic acid several years ago, I have found no antiseptic or deodorizer in which I could place so much reliance as Listerine. Have employed it in dressing several after-amputations: one at hip-joint in child for disease of femur, one just below the joint in adult, cause the same; another, just below knee-joint, cause gangrene of foot; all made rapid recoveries, the first two cases being up and discharged well in four weeks. In a case of contracted fingers, following a burn in palm of hand, after dissecting out the integument and cicatricial tissue down to flexor tendons, extending to tips of fingers; I did not transplant any skin, but dressed with Listerine ʒi, water ℥ii; had rapid filling in with healthy granulations and the parts skinned over more quickly than ever before under my treatment. I have had the same good results in dressing old ulcers and as an injection in leucorrhœa and gonorrhœa, and as a gargle in ordinary sore throat, varying the dilution according to indications. In wounds and operations generally Listerine ʒiv, water Oi; or when to be kept constantly applied Listerine ʒi or ʒii, and water Oi; in simple leucorrhœa Listerine ℥i, hot water Oii, night and morning; gonorrhœa, Listerine ʒss or ʒi, water ℥i.

The happiest results from Listerine have been in washing out bladders chronically inflamed. Old cases of cystitis have yielded and improved more under Listerine ℥i, distilled water Oi, than anything I have ever used.

Incidentally I found that out of a number of persons vaccinated with lymph on which, with a little water, a few drops of Listerine had been placed as a preservative, not a single case "took," whilst those who received vaccination direct with lymph from the same cone took satisfactorily.

BATTLE & CO.—Allow me to state that I have used your preparation, Bromidia, *a good deal* with patients *under my care* in the Georgia Lunatic Asylum, and have found it to be *an excellent hypnotic—efficacious and safe.*

I have obtained *the best results* in cases of insomnia *where other remedies have failed entirely.*

Yours respectfully, I. H. HALL, M.D.
Assistant Physician, State Asylum.
Milledgeville, Ga., Jan. 7, 1882.

Original Communications.

CONSUMPTION AND ABCESS OF THE LIVER.

Dr. Charles Anderson, U. S. Army.

As an illustration of man's recuperative powers, and especially under the most adverse circumstances, I send you this report of the following case.

December 4, 1879, Corporal David D—, Co. K., 9th Inft., his health had always been good till about fifteen months ago, when he was sick in hospital two weeks with a bad cold, though he has been on duty continuously since, he has had a hacking cough, no appetite, and has been losing flesh and strength. Complexion is of a decided yellowish tinge, and the mucous membrane pale, muscles soft, and for a man of his size, small. Temperature 98⅘° F., pulse 99, respiration 17.

Physical examination.—The apices of both lungs dull on percusion, auscultation revealed numerous *mucus rales*, the left lung being involved to a greater extent than the right. On the left side, under the third intercostal space, about two and a half inches from the edge of the sternum, there was a cavity, which on inspiration gave a note similar to blowing gently over the mouth of a ⅛ oz. morphia bottle.

The heart sounds were normal. The surroundings were anything but desirable, troops were in tents, the weather was intensely cold and the winds very high. Medicines scarce, the variety and quantity being what was in an army pannier. Fl. ext. of chinchona and syrup of squills were prescribed.

About a week afterwards, while making a second physical examination, I noticed a swelling in the right hypochondrium, (the patient had never noticed it,) pain in the point of the right shoulder was marked and persistent; bowels constipated, and stools small and gray. The tumor extended from near the anterior superior spinous process of the ilium, to the lower margin of the fourth rib. On attempting to palpate, I found great tenderness; after considerable difficulty, I detected fluctuation deep down in the liver. The lungs were in about the same condition as at the first examination. In addition to the first prescription I gave pil. hydragria grs. x. three times a week.

On January 3, 1880, another examination was made, the lungs were clearing up, the cavity seemed considerably smaller, the cough was very much less, and mostly in the morning, appetite good, strength improved, and he appeared in better flesh; on the other hand, night sweats had appeared, and he occasionally spat blood.

His temperature had ranged from 96⅕ ° F. to 99⅘ ° F. from the first observation to this date, during the following week it ranged from 100⅕ ° F. to 101⅘ ° F., after which it again dropped to what it had been. The rise in temperature occurred at the time the men changed quarters from tents to log huts. By the fifteenth of January he thought he was well enough for duty, an examination showed that both lungs were apparently healthy with the exception of the side of the cavity, which was consolidated; the pulse, temperature and respiration, normal, no cough, and night sweats gone. The tumor in the right hypochondrium had disappeared, as had all tenderness; the bowels were still very much constipated, motions small, hard and gray, when not produced by mercurial cathartics.

The remarkable part of the case is, that the hepatic trouble subsided by resolution; no pus ever passed per anum, and only very small quantities were coughed up. January 17 he returned to duty. The fl. ext. of cinchona, syrup of squills and blue mass constituted the major part of the therapeutic agents used in the case.

February 23, he again came on sick report, the day before while on a bridge building detail, he caught cold, and now had *acute inflammation of the liver* and *acute bronchitis*, temperature 102⅘ ° F.; he was placed upon his old treatment plus full doses of opium. In a short time he was very much better, he was on sick report for nearly five weeks, after which he was employed as a clerk in the Quartermaster's office. On the first day of July, 1880, he marched out with his company, and he stepped off as briskly and apparently as well as any man in the command.

Camp on Snake River, Wyoming.

THE Health Office of this city reports the rapid disappearance of smallpox. Almost universal vaccination spared the people a scourge.

Reports of Societies.

CINCINNATI MEDICAL SOCIETY.

Meeting of February 28th, 1882.

GUSTAV BRÜHL, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

DR. W. H. TAYLOR reported the following case of

Hysteria.

A girl, twenty years old, entered the Cincinnati Hospital for the purpose of being delivered. She supposed she was in labor at the time, but as this did not prove to be the case she was sent into the ward to wait her time. Her respiration was very rapid, ranging from forty to eighty per minute for three weeks, sometimes exceeding the pulse in number. Auscultation revealed no disease of the heart or lungs. Drs. Dandridge and Mackenzie also examined her chest with the same negative result. She could lie in any position without inconvenience, whether her head was low or propped up respiration was the same, nor did talking interfere with it. She slept well and had good appetite. The temperature was taken twice daily for three weeks, and only once was there any elevation, then it went up to 102°.

At the end of the third week she had violent hysterical convulsions. There was no evidence of uræmia in the case. Her urine was repeatedly examined and was always found to be normal. After the convulsions she lost all the special senses except sight, but her intelligence was not at all impaired, as she showed by written answers to written questions. There was a perfect anæsthetic condition of the skin, except at the point on her arm where she had been vaccinated, and on the back of her neck where she had received an injury by a fall. She made signs to relieve herself when nature demanded. Every possible test, was applied to her without detecting any signs of malingering. In two weeks her hearing returned and when she had spurious labor pains she would whisper expressions of suffering. In two or three days after the recovery of her hearing she was able to speak in her ordinary tone of voice, and in two weeks thereafter seemed quite well. Shortly after this she was delivered naturally, feeling her pains as the parturient woman usually does.

At this date (February 28th) there is less sensitiveness of the skin than normal and the respiration is still quite rapid, forty to the minute, but she is progressing favorably.

She had worked as a servant until two months before she entered the hospital, when she could not carry a load upstairs on account of shortness of breath, but she continued to work on the level until the day of her admission. There was no swelling of the legs in her case and no lividity.

P.S.—March 14th. This patient has now been discharged from the hospital quite well, except that the same rapidity of respiration continues.

Selections.

MEDICINE.

CHANGES IN THE CRANIAL BONES IN HEREDITARY SYPHILIS.—M. Parrot classes in the number of the surest and most evident signs of hereditary syphilis certain alterations of the cranial bones, which are very easy of recognition. The cranium can indeed, like the long bones, undergo modifications in consistency and form, when under the influence of hereditary syphilis. The thickness of the walls, can, under this influence, be increased or diminished. The first of these modifications is identical to that which is produced in long bones, but this alteration is produced according to certain rules almost free from exceptions. The exuberant productions which determine this thickening are generally disposed over a pretty large area, and are always produced on the external, never on the internal surface of the cranial bones. A remarkable fact also is that they are produced on the most elevated parts of the cranium, the parts which suffer the least compression, and where the circulation is most active, never on the sloping sides. Most often it is the bregmatic region which responds best to this condition. So it is in this region especially that this lesion is observed. These osteophytes envelope the whole of this region of the frontal, parietal and temporal bones.

These osseous thickenings of the peri-bregmatic region often give place to that spinal deformity, which M. Parrot has called the natiform cranium (nates), on account of the peculiar aspect which results and which is often more perceptible to the touch than the sight. If the hand be over the top of the head there will be felt an abnormal prominence of the parietal eminences which are separated by a furrow corresponding to the inter-parietal suture. This thickening may also exist on the frontal and temporal bones. In certain cases even the osseous productions close up the sutures prematurely, and by preventing the development of the cranium can cause idiocy. These lesions are easy enough to recognize if the cranium be carefully examined. M. Parrot has occasion to see every day in his practice similar deformities, and that on children apparently in good health, contrary to the opinion generally received that hereditary syphilis necessarily implies a state of cachexia. As respects the subject of this lesion, M. Parrot has brought in an important point regarding the history of syphilis. It is that he has had occasion to observe it on the crania of infants found at Guayaquil, and long before the European conquest, the same lesion was seen by him on the skull of an adult found at Lima, and certainly previous to the time of Pizarro. It is then shown by this point of pathological anatomy that syphilis was not carried to America by Europeans. Moreover, the age of syphilis is proved by the fact that similar lesions were found by M. Parrot on the skulls of children from the pre-historic collection of M. Pruniéres (of Lozére).

Hereditary syphilis can be manifested also on the sides of the cranial bones by lesions of an altogether different sort; that is, a defect of consistency, a kind of softening constituting *craniotabes*. and which is due especially to diminution in the calcareous salts; but this lesion in place of showing itself like the preceding, on the external surface of the bones, is produced, on the contrary, from within outward. Moreover, it is found on the sloping regions habitually subjected to pressure and where the circulation is not very active, conditions altogether contrary to those producing the preceding lesions. Also the occipital and the bones of the base of the skull are the ones especially affected in this second form.—*Journal de Méd. et de Chirurgie.* P.L.-C.

THE INFLUENCE OF ALCOHOL ON DISEASED CONDITIONS.—A large volume could be written on this subject, but a few words will serve our present purpose, which is to call the attention of physicians to the great influence that the use of alcohol may have on various diseased conditions of the human system. The effects of alcohol have been frequently, and we might say, exhaustively discussed, and as a result, when we distil all the arguments, pro and con, we are forced to believe that, to say the least, alcohol is not of any particular benefit to healthy mankind. There are certain conditions of ill health, it is true, in which it may and does do good, but the weight of evidence is in favor of the doctrine that, in the large majority of cases, it is only productive of harm. We all know that a large majority of men use alcoholic drinks as ordinary beverages, and without themselves realizing how much they drink, many of them will daily consume at least a pint of whisky, who consider themselves, and are generally regarded, as only *moderate drinkers.*

No doubt (we speak from experience) many physicians have had, from time to time, presented to their notice instances of chronic disease in which remedies that ought to produce certain effects have failed to do so, and they wonder and cannot comprehend why this should be so. May it not, in many cases, be due to the counteracting influences of even moderate alcoholic indulgence? For illustration, let us select nasal catarrh. Here we have a congestion of the mucous membrane of the nasal passages. Alcohol has a tendency to produce congestion of all the cranial contents. Suppose you may use all the most approved astringent remedies to contract the dilated vessels and remove this nasal congestion, and at the same time the patient continues to use alcoholic drinks; you will have a hard road to travel; it will be like trying to fill a bucket with a hole in the bottom; your astringent efforts will be overcome by the congesting influence of alcohol.

Again we might instance chronic gastritis (which is often produced by the inordinate use of alcohol); your remedies, though well directed, may fail to afford relief if the patient continues the use of alcohol. We all know, for sure, this much, anyhow, that alcohol is a local irritant, and we know that local irritation means a congestion of the part so irritated; therefore, when alcohol is taken into a congested stomach, you may use all the remedies in the pharmacopœia, yet this irritation and congestion will persist, since it is constantly being produced. We might go on indefinitely, illustrating our argument, but it is unnecessary.

Our purpose has been merely to direct your thoughts into the channel indicated, and to cause you to think that chronic disease may be maintained in many cases by the use of alcohol. When you meet a chronic disease that does not yield to your well selected remedies, and when you are at a loss to account for this failure, inquire into the tippling propensities of your patient. Do not be satisfied when he tells you that he is a "*moderate drinker*," but peer minutely into his habits, and learn what moderation means in his particular case.

In some, moderation means a pint or two of whisky daily, or forty glasses of beer; while to others four or five ounces of whisky would constitute excess. This is a collateral consideration in the treatment of disease, not to be overlooked, while attention to it will surely aid much the remedial action of drugs.—*Med. and Surgical Reporter.*

THE BENZOATES IN DYSENTERY.—Surgeon Harris states that fifteen grains of the benzoate of ammonia or soda, three or four times a day, are of the utmost value in the treatment of acute and subacute varieties of dysentery. The exhibition of this drug, more especially of the ammonia salt, causes an active secretion of bile from the liver with cessation of the acute symptoms. In the majority of cases the patients readily tolerate the drug; under its use the stools rapidly become fæcal, possibly owing to the excessive secretion of bile, which is thus poured out into the intestine, and acts beneficially on the congested and perhaps ulcerated large intestine.—*The Indian Medical Gazette.*

SYPHILIS OF THE LUNG.—Dr. Pancritius, a general practitioner in Berlin, has lately published a work on syphilis of the lung (*Lungen Syphilis*, Berlin, 1881, pp. 295) which is chiefly occupied with the clinical, and occasionally the pathological, records of one hundred and ten cases of the disease from his private practice. So large a collection of cases from the private practice of a general practitioner could not in any case fail to be interesting, and those recorded by Geheimrath Dr. Pancritius have the advantage of being set forth with a certain skill, and with a scientific and practical intention. It is in such a work as this, that we find the faithful transcription of all those small and great incidents in the health of private patients, which become known to the general practitioner as they occur, and which accumulate in his memory to form a body of knowledge and experience differing from that whcih the clinical or consultant practitioner acquires, but not necessiarily inferior to the latter, either in quality or in quantity. Knowledge and experience so gathered are too seldom communicated to the profession, and the reason of that is obvious enough. It requires a peculiar kind of skill to extract matters of interest from the common round of practice, a talent not unlike that which

White of Selborne had to make, within the narrow limits of his Hampshire parish, a volume of observations which all the world unites to admire. It is with no disrespect to the general practitioner, that we would compare his observations to those of the field naturalist. The most famous scientific books of the century, the *Origin of Species*, and the numerous volumes that have followed it, are much more the work of the field naturalist than of the anatomist and embryologist. There is a natural history of disease as there is a natural history of living things, and it is that aspect of disease which comes more particularly under the notice of the general practitioner. We do not say that the work of Dr. Pancritius is distinguished by any very unusal qualities; he has merely taken occasion to follow the constitutional symptoms, in a large number of cases, with a closeness and comprehensiveness that would have been hardly possible to any one single specialist, and that too in a disease where the complete picture, or the entire ponorama of incidents from first to last, is absolutely indispensable. More than twenty years ago, he began to think that certain disorders of the respiratory system, of sufficiently common kind, occurred with a good deal of uniformity in those who had contracted syphilis, and he has ever since been on the out-look for those pulmonary concomitants of syphilis. We gather from remarks dropped here and there in the book, that Dr. Pancritius has been regarded by some of his colleagues in Berlin as an enthusiast in this matter. But that is nothing more than the criticism which every prophet meets with in his own country, and fortunately the printed copies of his book do not carry the local atmosphere of unbelief with them. It is becoming daily common to put syphilis and tuberculosis into the same class of diseases due to the introduction of a virus into the body, and the parallelism between the effects of the actual or supposed virus in the respective cases, and more especially the effects on the lungs, becomes daily more interesting. But it is from the practical point of view that the recognition of syphilitic lung-diseases claims the serious attention of everyone. It is of the utmost importance that we should be able to recognize among private patients, as well as among the multitudes who flock to dispensaries and hospitals with chest complaints, those cases upon which the too stereotyped expectorants and tonic mixtures would only be thrown away, and on which the antisyphilitic treatment should be tried.

In contending for the comparative frequency of syphilitic affections of the respiratory system, the author of this work does not profess to have discovered an unusual number of syphilitic patients who had gummatous nodules (or cavities resulting therefrom) in their lungs. On the other hand, the syphilitic affection of the lung, which he wishes to emphasize, is an interstitial pneumonia, an induration of the connective tissue following the track of the bronchial and pulmonary arteries for a certain distance from the hilus of the organ into its interior. It is essentially an affection of the middle region of the lung, and the affection is not one of the air-cells, but solely of the supporting connective tissue of the organ. The physical signs are found mostly in the interval between the base of the scapula and the vertebral column; they are nothing uncommon, being more or less diminished percussion resonance, weakened respiratory murmur, and especially weakened or altogether absent expiratory murmur, and these variously extended or added to in intensity. Dr. Pancritius, being a general practitioner and not a thoracic specialist, has a wholesome appreciation of the limits imposed upon diagnosis by means of physical signs. At page 5 of his introduction, he gives expression to a sound and excellent maxim which we welcome all the more as coming from a country where there has always been a tendency towards detail for its own sake, *Die Technik beherrscht das Denken*—"technical skill lords it over the thinking faculty." His picture of pulmonary syphilis, from which we might almost leave out physical signs without seriously impairing its value, is somewhat as follows: There is first an active stage, in which the patient, often with the appearance of blooming health and feeling well in general, complains that there is, especially on exertion, a certain feeling of weight in one side of the chest (usually the right), with difficult respiration, and not seldom dyspnœa in the evening. After a time, these subjective indications become more intense; the dyspnœa while walking is marked, there is a dry cough, and sometimes in the evening some slight asthmatic attacks. A true pulmonary catarrh, without fever, may follow, the dyspnœa may become more intense, and there may be, with the cough, slight pains referred to the middle portion of the affected lung. These hardly distinctive symptoms, are gradually increased so that the respiration becomes wheezing, the asthamatic attacks come on oftener and last longer, and there is general disorder of the digestion, with a feeling of weight in the hypochondria. If the practitioner be on the look-out, he will hardly ever fail to find, in this first stage of the pulmonary affection, the usual indications of constitutional syphilis in the skin, the mucous membranes, the bones etc. There may be also, rheumatic and nervous symptoms, sleepiness, and blood disorders such as chlorosis. In the second stage, the destructive or passive stage, there is more or less fever, purulent expectoration, even hemoptysis, very severe and frequent asthmatic attacks, general disorders of the digestion and of the secretions, loss of strength, cachectic appearance, and, as the disease progresses, all the various indications of pulmonary phithsis may show themselves. Of those symptoms, the author especially dwells on dyspnœa, asthma, hæmoptysis, and the characters of the sputa.

Reduced to the bald form of a systematised statement, the diagnostic marks of pulmonary syphilis do not appear very striking. The strength of the author's case lies, naturally, in his clinical histories, and it is only from their perusal that the reader will obtain an adequate impression in each particular case, either for or against the distinctive syphilitic character of these not uncommon lung troubles. There are records of the *post mortem* condition in about fifteen of the cases, and there is a very much larger proportion of cases, some of them truly remarkable, in which the more or less tardy adoption of an antisyphilitic treatment led to a rapid reduction of the symptoms and a permanent restoration to health. It sometimes happened that syphilis was at first stoutly denied by the patient, and who only confess to it when the chances of recovery were seen to depend on telling the truth. It is worthy of note that the primary sore in 43 per cent. of the cases was of the non-indurated variety.—*British Medical Journal.*

Bone Fractures in Hemiplegic Patients.—Debove was led recently to investigate the condition of the bone in hemiplegic patients, having noticed that in such patients fractures usually occur on the affected side and mostly concern the humerus. A comparison of the bones on the two sides shows that the bone tissue of the affected side is lighter than that of the sound side. In a transverse section it is seen that the medullary canal is larger and the compact substance less thick on the lame side. Moreover it is seen that the caliber of the Haversian canals is increased and contains a larger quantity of fat.

In other words, the bones of the affected side show a true osteoporosis which explains the frequency of fractures among hemiplegic patients.

These fractures pretty rapidly unite, however, with the development of an unusually voluminous callus.—*Le Progrès Médical*, No. 43. J.T.W.

Difference Between Diphtheritic and Catarrhal False Membranes.—Dr. de Albertis obtained, by the action of sulphuric acid on non-diphtheritic false membranes, crystals which were insoluble in ether and alcohol, but soluble in alkalies, and which on examination proved to be tyrosine. The crystals could not be formed from true diphtheritic membranes.

The author comes to the following conclusions:

1st. Diphtheritic false membrane has a different chemical constitution from an inflammatory membrane.

2d. The nature of a false membrane can be determined by the microscope and by the action of sulphuric acid upon it.—*Bul. della scienze Mediche.*

Treatment of Pleurisy with Jaborandi.—Prof. Bouchut has obtained good results from the use of jaborandi in pleurisy. He gives the following details of a case: A girl, aged seven, was brought on the 5th of February to the hospital; for two days she had experienced rigors, fever, headache, and vomiting. At the time of admission she had an evening temperature of 38° 2 C., the pulse-rate being 95; there was much dispnœa, and the patient complained of a "stitch" in her side. Examination showed that there was pleurisy with exudation on the left side, with displacement of the heart, the apex beat being felt one cm. from the sternum. On the sixth of February 3·0 of jaborandi were given; in the evening there was no stitch and no dyspnœa. On the 7th of February it was noted that the patient had passed a good night, and that there was no increase in the exudation, Jaborandi 3·0. On the 8th of February vesicular breathing was audible as far as the middle of the sternum. Jaborandi 3·0. On the 9th of February vesicular breathing could be heard all over the chest; the heart was in its normal position; there was no fever. On the 10th of February all the symptoms of pleurisy had vanished. The patient continued to take 3·0 jaborandi daily until the 20th. The exudation did not return, and there was complete recovery. The author adds, as a warning, that jaborandi acts chiefly upon the salvary glands in children, and only slightly upon the sudoriparous glands.—*Med. Chir. Rundschau*, Sept. 1881.

Iodoform in Orchitis.—The following formula is recommended in orchitis by the *Union Méd.* Iodoform four and vaseline thirty parts. Frictions are to be made with this on the painful testicle in orchitis and neuralgia of the cord, supporting the organ by a suspensory bandage. If mercurial ointment has been previously used, it must be carefully washed off, lest the iodide of mercury, which is a caustic, might be formed.—*Med. and Surg. Reporter.*

SURGERY.

The Iodoform Dressing in Surgery. (Continued from page 245.)—How shall iodoform be used? As a pure and simple dressing, in the more restricted and actual sense of the term, the unmixed iodoform is the most satisfactory and best method of application to such wounds as are on a free surface and easily accessible. It may be used here in the form of the coarse granular crystals as it occurs in commerce, or as a fine powder obtained by trituration of the crystals. In the author's first experiments with the dressing he made use of the crystals, which were introduced directly into the wound, and this method is preferred by Güterbock to-day in cases of extirpation of lymphatic glands. He does so on the ground that the crystals are more difficult of solution, and therefore remain a longer time in the wound and are more efficacious; moreover, as a logical consequence resorption by the tissues takes place more slowly, thus preventing, in great part, all danger from poisoning. The author soon discontinued the use of crystalline iodoform and since then has only used that which was finely powdered. In Billroth's clinic the powder is now exclusively used. The reasons for recommending the powdered iodoform are, firstly, it is cheaper, since it must be apparent to everybody that the powder furnishes a larger bulk than crystals; secondly, the object of bringing all parts of the wound into intimate contact with the preparation can be much more easily accomplished by the use of a fine powder than of large crystals; thirdly, the possibility of the sharp and pointed edges of the crystals setting up sufficient irritation to prevent the union of the wound by first intention; fourthly, the desire to permit of an easy elimination of the superfluous iodoform as the process of healing advances. There need be no fear of the formation of lumps of mingled powder and secretion, as so frequently happens in the use of powdered salicylic acid, nor has it been shown that there is more danger of poisoning with the powder than after the use of the crystalline iodoform. And in regard to the prolonged action of the crystals it may be stated positively that the iodoform when most finely powdered is never absorbed so quickly as not to leave a surplus in the wound, provided always the dressings have been properly applied at the beginning. The powdered iodoform is simply strewn over the whole surface of the wound and particular care must be taken to cover it in its entirety, and to bring the powder into all folds and depressions. The thickness of this layer of iodoform will vary according to the mode of union desired by the operator. When union by first intention is aimed at, the iodoform should only be in such quantity as to form a very thin film; more than this would delay the intimate coaptation of the surfaces or prevent it altogether. In the treatment of wounds communicating with cavities, the layer of powder must be sufficiently thick to prevent the wounded surface from being visible at any point. Filling the entire cavity of the wound with the iodoform is a procedure that is not only unnecessary, but one that may be very injurious and dangerous. The largest quantity of powdered iodoform used by the author at one time in any given case was 60 grammes (about two ounces); one case exceeded this, in which 70 grammes were used, but such amounts are only permissible in the largest wounds and in adults; usually 20 to 40 gram. are quite sufficient, and in the case of children due regard must be paid to the age of the patient. The powder may be conveniently applied with a knife or spatula, but is more evenly distributed when a powder-box is used, as recommended by Billroth. This powder box may have an outside solid cap to prevent the escape of the volatized iodoform and the pungent odor, the inner cap being perforated. Such an apparatus is very convenient and serviceable where the powder can be applied from above; where, however, the wound must be dressed from its under surface, as in the axilla, it is manifestly impracticable and may be replaced by one or other of the many insufflators now in use. In the treatment of sinuses, especially those which penetrate to some depth from the surface, the most serviceable form of application is the use of iodoform cylinders or suppositories in which the menstruum used may be mucilage of gum arabic or gum tragacanth, cacao butter or gelatine; these suppositories may be made of any desired length or thickness and it is advisable to use a minimal quantity of the menstrum so as to obtain the iodoform as concentrated as possible. Thus one part of cacao butter to nine parts of powdered iodoform, or two parts of gelatine to eight parts of iodoform give the desired mixture. The gelatine suppositories possess the advantage of flexibility and are therefore more easily introduced into sinuous or angular canals. Iodoform may also be used in solution or in emulsion—Mikulicz and Bidder recommend a solution containing one part iodoform to six of ether. This ethereal solution has never impressed the author favorably owing to the irritant properties of the ether and he found in one case that it was followed by a very violent reaction, besides producing severe pain. Now it may be, that the reaction thus set up is rather an advantage in the treatment of old and callous sinuses and that it promotes softening and the formation of granulations. Emulsions are prepared with ol. ricini, ol. amygdal. or glycerin; the oily emulsions in the proportion of one part iodoform to three of oil are very fluid and pass easily through very fine canulas of the syringe. For glycerine emulsions the author recommends the following formula:

℞. Iodoform, pur.,	50.00 parts.
tere c. Glycerin,	40.00
Aq. Destill.,	10.00
Gum Tragacanth,	.30

ut ft. emulsio—

Without the addition of water this emulsion would be too viscid to be generally useful; with it, the emulsion is to be highly recommended for parenchymatous injections of iodoform. Parenchymatous injections of iodoform promise to take a leading part in the surgery of the future; in order that they may be easily made without pain or discomfort to the patient suitable syringes are requisite.

After thus briefly describing the various ways in which iodoform has hitherto been applied in surgery, we come to consider how the wound must be prepared for this application and how the protective dressing is to be used. In recent wounds the hemorrhage must be very carefully arrested; for ligation of vessels Lister's catgut is preferable, because of its easy resorption. However, after resection of joints, operations for necrosis and all operations in which Esmarch's bandage is used, the dressing may be applied while the artificial anæmia lasts, having first made sure that no larger vessels have been injured; and the Esmarch bandage need not be removed until the whole dressing is completed. To prevent any considerable hemorrhage in these cases it is necessary to keep the operated extremities in an elevated position for several hours after.

What is to be used for cleaning the wound before applying iodoform? Most operators still use for this purpose two to three per cent. solution of carbolic acid, and Güterbock recommends a still stronger solution of this acid or a seven and one-half per cent solution of chloride of zinc. It is a question whether washing of the wound with antiseptic solutions be or be not necessary before dusting with iodoform; the author believes that it is not. In experiments made where ordinary water was used for this purpose the wounds remained aseptic just as after the use of carbolized water, and during the past three years in which iodoform has been used he has never had any occasion to regret this course of treatment; in not a single instance has there been any septic wound, although solutions of carbolic acid have not been used in the wound, and this alone is one step toward a simplification of the dressing. The correctness of the author's views on this point is proven, not only by his own experience but by a very interesting case published by Höftmann; child three and one-half years old, with empyema, a fistula at level of sixth rib, illness of six months' standing, high fever, the child very much reduced and living on milk. Resection of one inch of sixth rib; the cavity is very large, with rigid walls and can just be circumscribed by the tip of the index finger. The wound in the cavity is scraped with the curette, hard, fibrous bands being found below the surface; as the bleeding was very considerable the operator feared to wash out the pleural cavity with carbolic solution. Thirty grammes of iodoform were carried into the sac, the wound was covered with salicylic cotton, no drainage tube being used, and outside of this another layer of ordinary cotton. The case progressed without fever, temperature only once reached 100°, recovery complete in four weeks. Now if we obtain such favorable results in cases where we have a large pus-secreting cavity with rigid walls, it is only natural to infer that cleanly cut, simple wounds will also do well without the use of carbolic acid. Falkson of Königsberg also mentions two cases which show very plainly the antiseptic action of iodoform without carbolic acid. An abscess of the neck with beginning inflammation of the anterior mediastinum, which discharged a very offensive pus and gas on incision, and a second case of extensive infiltration of urine into the scrotum and perineum changed into clean and healthy wounds in a few days under the use of iodoform; the offensive odor disappeared, fever ceased abruptly, and in ten and eighteen days respectively firm cicatrization had set in. The following sentence is found in one of the articles just referred to: "Iodoform possesses all the good properties of carbolic acid only in a higher degree." Since this is recognized why is it that surgeons hesitate to give up carbolic acid? In the use of carbolic dressing the case is far different from what obtains with iodoform. Carbolic acid is volatile, and only exercises a transitory antiseptic action, for which reason the carbolized dressing to be efficacious must be applied with extreme care; since, when the acid is volatized, germs begin to exercise their deleterious action in the wound. Iodoform, however, remains in contact with the wound until complete recovery takes place and manifests its antiseptic action continuously; it is a permanent antiseptic and therein lies the secret of its almost marvelous effect upon wounds of all kinds. The author can therefore only repeat and strongly emphasize the opinion that in the iodoform dressing the use of any other soluble antiseptic is absolutely unnecessary except for the cleansing and preservation of sponges and for the disinfection of instruments and the hands of the operator.

(To be Continued.) J.E.

Toxic Effects of Iodoform.—Within the past six months the favorable effects of iodoform dressing in wounds of all parts of the body and in large cavities particularly have been chronicled to a greater or less degree in all medical journals. The practice of dusting the crystalline or powdered iodoform on fresh wounds, which originated in the large clinics of German surgeons, has been largely followed in this country and with equally good results. From recent experiences, however, it appears that this treatment is not altogether devoid of dangerous and even fatal consequences.

The unpleasant, serious and even fatal symptoms induced by iodoform poisoning have been so frequently observed of late that König (of Göttingen) has just published a series of thirty-two cases, many of which he obtained by solicitation from correspondents. In all of the cases the evidences of greater or less mental aberration has been recorded; the psychical phenomena developing often with marked rapidity, sometimes disappearing and at times continuing to the death of the patient.

For better review, the author divides his cases into three categories according to the severity of the symptoms. The first group contains those instances in which mild mental disturbances or other toxic symptoms appeared and continued for but a short time. The second class contains those cases in which severe symptoms supervened with or without inducing death, whereas the third group contains only the histories of cases occurring in children or young individuals. Two cases of the first class will illustrate some of the peculiar toxic effects of iodoform.

Case 1. The cavity of a tuberculous abscess above the knee joint is freely laid open and its walls covered with about fifteen grains of iodoform. A few days later an attack of nervous delirium is witnessed in the patient. He leaves his couch under the impression he is persecuted. The attack lasted only a short time, for in several hours after its beginning the patient awoke as from a profound sleep, and continued somewhat confused for a short time. Notwithstanding the fact that iodoform was again and again dusted upon the diseased surface, no other attack of delirium was produced.

Case 7. A miner, healthy and robust, suffered from a compound fracture of tibia for which a Lister's dressing was applied. Secondary hemorrhage during the night, to check which it was necessary to enlarge the cutaneous opening and ligate an artery. The fragments of bone were united together with silver wire. The wound was then filled with iodoform. During the fourth night after the operation, sleeplessness and great mental anxiety developed, but towards morning they disappeared. For a number of nights the same restlessness, mental anxiety and confusion continued and the patient lost appetite and strength. With a discontinuance of the iodoform applications the cerebral symptoms disappeared.

In a second group of cases are classified those in which severe symptoms, with or without fatal termination, supervened. Those which ended in death are contained in a subdivision of the category of severer cases.

Case 17. Extirpation of the rectum in a woman æt. 58. Copious hemorrhage. A small quantity of iodoform is rubbed into the wound cavity, and thorough drainage provided for. The patient recovered readily from the operation but in the evening of the second day peculiar psychical symptoms developed and continued during three weeks. During the night she was very restless, chatters continuously and enjoyed particularly the repetition of sonorous phrases. When accosted, she responded in a rational manner, but eventually hallucinations of various character overpowered her and unconsciousness of her surroundings was witnessed. The condition of the patient changed from time to time. During the second week of her attack occasional lucid intervals were observed. Morphia and opium were administered without any positive results. During the period of mental aberration the wound suppurated freely, but was otherwise in fair condition; temperature only slightly elevated. After the disappearance of cerebral symptoms, the pulse became very rapid, small and intermittent. These cardiac symptoms vanished in eight days under the influence of digitalis.

Case 19. Amputation in the lower portion of the thigh, for disease of the knee in a greatly emaciated patient, æt. 22. The operation was followed by gangrene of the flaps, and by a very offensive discharge. Removal of all the sutures followed by the application of powdered iodoform and iodoform gauze to the part. During eighteen days subsequent to the operation nearly two ounces of the medicament had been employed. This late an acute maniacal attack came on during the night. Patient scolded, screamed aloud and desired to leave her couch. Various hallucinations troubled her at night, but even during the day her mind was not cleared. Notwithstanding the use of morphia and bromide of potassium the condition of the patient remained unchanged. At the end of a week this changed perceptibly and the patient recovered speedily, although the local applications of iodoform were continued. At no time during her delirium were febrile symptoms present.

In the subdivision of fatal cases already alluded to are seven histories, of which five seem to indicate that death resulted unquestionably from the use of iodoform. Of these cases it is remarkable that a great majority occurred in persons of advanced years. The respective ages of the patients who succumbed being 61, 70, 69, 61, 67, 63 and 46 years. The diseases for which operative interference was practiced were goitre in one case, diseases of joints or bones four cases, amputation of the breast, and removal of the superior maxilla each one case.

Case 22. Excision of a joint greatly deformed and rendered useless by arthritis deformans in a patient æt. 61. Considerable hemorrhage after the operation. Application of more than two ounces of iodoform. During the first days, considerable fever supervened, but soon disappeared and left the wound in an aseptic condition. On the ninth day, great restlessness is manifested; the patient forcibly removes the dressings and has involuntary discharges. In a few days the restlessness disappears, but the mind continues cloudy. On the eighth day of the cerebral symptoms maniacal attacks develop which so exhausted the patient that he succumbed on the eleventh day of the disease. With the exception of a slight œdema pulmonum the autopsy is devoid of positive results.

Case 26. Excision of a tuberculous elbow-joint in a woman æt. 67. About three drachms of iodoform were placed into the wound and Lister's dressing was applied. On the sixth day the patient was sufficiently well to leave her couch and go about. On the fifteenth day, the second dressing was applied; the wound found aseptic and iodoform introduced with the drainage tubes. From this time on a peculiar restlessness overcame the patient. At times she would speak disconnectedly, while at others she appeared asleep with wildly opened eyes. At night delirium supervened; desire to leave the bed and leave the house. Urine was reduced in quantity and contained a large proportion of iodine and albumen. The mental weakness increased in intensity and the patient had to be nourished with the œsophageal tube. On the fifth day of the disease, the iodoform was washed from the wound and on the sixth day the sensorium was clearer and the patient again volunteered to take some food. On the evening of the following day, after a short struggle, death most unexpectedly supervened. With the exception of an extensive œdema of the pia mater and a few old phthisical cavities, no positive lesions were discovered at the autopsy.

In the third group of cases affecting children or very young individuals are recorded four cases, two of which terminated fatally. In one of the latter, a case of excision of the hip, the death must undoubtedly be attributed to the dressing employed. In the other case this conclusion is not so certain.

In the same issue of the *Centralblatt fur Chirurgie*, Dr. Hœftman narrates two fatal cases of iodoform intoxication the one affecting a woman, æt. 40, from whom a cancerous breast was removed, and the other a woman of forty who was operated upon for an adherent cancerous tumor of the ovary. In both of these cases an acute mania developed after a short period of restlessness.—*Centralblatt für Chir.*, 18, ii., 1882.

J.R.

AFFECTIONS OF THE JOINTS IN TABES DORSALIS. — C. Westphal, *Wochenschrift*, *Berlin*, 1881, No 38 and 89. In connection with the report of a case of deformity in both knee-joints, arising during the course of tabes, Westphal describes at length, joint affections generally in tabes dorsalis. The appearance of joint affections does not seem bound to any particular period or stage of the tabes; for the most part, however, this generally appears in the later stages, but is sometimes a prodromal symptom, as in a case described in No. 37 of the *Centralblatt* for 1881. The affection of the joint runs a painless course; the skin over the joint is not even red, though sometimes this can be the case. Rarely do we find the affection in the hand, foot, toes or fingers; for the most part it is knee, hips, elbow and shoulder joint that are attacked. Westphal could not corroborate the statement made by Buzzard, that the so-called crises gastriques precede affections of the joints, for this affection of the stomach is observed at any time. The abnormal tendency to fracture, often observed and noticed, Westphal attributes to this affection in the joints, and reports a case illustrative of it.—*Atlanta Medical Register*.

A NOTE ON THE AFTER-TREATMENT OF SOME EXCISION OF JOINTS. — In a paper entitled, "Excision of the Knee in Early Life," which appeared in the *British Medical Journal*, of December 10th, 1881, my colleague, Mr. W. Stokes, observes: "The method of fixation of the limb adopted in the Richmond Hospital is a modification of that of Dr. P. H. Watson; and it appears to me to fulfil, as perfectly as need be, all the required conditions. An antiseptic dressing having been applied to the leg first, and subsequently to the thigh, two metallic splints, made of common hoop iron, are applied on the anterior and posterior surfaces of the limb, and then are fixed—first on the leg, and subsequently on the thigh, by gypsum bandages applied in the ordinary manner, care being taken to leave the portion of the limb near the situation of the wound open, so as to allow the application of antiseptic dressings without any disturbance of the limb. I consider this method of fixing the limb far superior to any others with which I am acquainted; and it has the merits of cheapness, simplicity, and thorough efficiency."

The method of dealing with these cases, thus approvingly spoken of by Mr. Stokes, was first introduced by me; and it was in my practice that he first saw it. I am very glad to know that, since he adopted it, he has had an experience of it so favorable, and so much in accord with my own. Although he has anticipated my intention to describe this plan, I may be allowed now to refer to it more fully. I had previously used Dr. Watson's apparatus; but I found that with a posterior splint of scored wood, afterwards covered with plaster-of-Paris, the whole covering make an unnecessarily bulky case, not always comfortable to the patient. Moreover, the scored splint did not lie so accurately as to prevent movement; and there was consequently not only, at times, pain from the jarring of the bones, but the risk of some displacement. The anterior splint, also made of rod iron, with lateral flanges attached to make it rest easily on the limb, and to give grip to the plaster, had to be specially prepared from careful measurements in each case, and entailed a cost worth considering in a large hospital. It therefore occurred to me that all the advantages of Dr. Watson's plan of fixation might be received with less trouble and cost and with certainty, by using hoop iron instead of the rod, and the Gooch splint. The material selected was about an inch-and-three-quarters wide, and of the ordinary thickness. This gives us a substance at once firm and resisting, and yet sufficiently pliable to be bent with the hands across the knee, or on the edge of a table, into any shape that we may require. A number of punch-holes should be made, passing from the under to the upper side, so that the roughened surfaces may be caught in the bandages. The anterior splint reaches from near the groin, along the front of the thigh, arches over the knee to give room for dressing, passes along the leg, and terminates on the dorsum of the foot. It is, in fact, of the shape adopted by Dr. Watson, with the exception that there is no suspension hook near the lower end of it. The posterior splint is modelled, after that proposed by Mr. P. J. Hayes, of the Mater Misericordiæ Hospital, Dublin. That portion of the metal which corresponds to the popliteal space is bent obliquely upwards and forwards, so that the leg piece is on a slightly higher level than that of the thigh. The limb is rolled up in a gauze bandage; and the splints, protected by a light layer of cotton wadding, are then applied, and kept in position by a well-fitting gypsum roller. The whole limb presents a size very little greater than natural, and the divided bones are kept firmly in position. The reason is that the plaster-of-Paris is applied directly to the surface of the limb (separated only by a thin gauze layer) throughout the greater portion of its surface, and the two iron splints serve as bridges between the thigh and leg. It will be found that the width of the iron is sufficient to afford a hold for the bandages, and that therefore the lateral flanges are not required. If the surgeon should fear hemorrhage, requiring examination of the wound, and therefore be disinclined to apply the plaster immediately, he can postpone this operation until next day. The splints may meanwhile be secured with a gauze or flannel roller, and they will be found to give, even thus, very great security.

During the illness of one of my colleagues, I had an opportunity of trying the same method in a case of excision of the hip-joint of one of his patients. There is always difficulty in keeping the limb in a fixed position after operation in these cases; and I believed I could secure the necessary extension and fixity by very simple means. Moreover, the child had a very bad lateral curvature of the spine, and it appeared to me that we could treat that at the same time. Accordingly, a piece of hoop iron was cut, of sufficient length to reach from below the axilla to the lower part of the leg. It was bent so as to form an arch over the wound, to allow for dressing. On the day after the operation, I placed the child under the influence of ether, and then had her well extended in the horizontal position by assistants. A Sayre's jacket was then applied for the usual distance, and in its folds was included the upper portion of the splint. The lower part was fixed to thigh and leg, during extension of the limb, by a few turns of gypsum bandage, and all was done. The case soon passed from under my care; but the method appeared to be to achieve what was aimed at, and I shall again adopt it in a similar case. In compound fractures it has also acted admirably, broken extremity being at rest, and allowing free access to the wound.

In excision of the knee, the swinging of the leg is a condition usually of much comfort to the patient. This I effect in a very simple way. I have had some bed cradles made of rod iron, about the thickness of one's little finger, and of a somewhat larger size than usual. The cradle is placed over the limb, which is then swung by means of a piece of stout calico of sufficient width, attached on either side by two or three tails to the upper bars. Hoop iron will be found to make admirable splints in fractures of the arm or leg in children, being at once very light, and admitting of being very closely applied to the limb.—William Thomson, M.A., F.R.C.S.I., in *British Medical Journal*.

DISLOCATIONS OF BOTH KNEES.—The following case is recorded on account of the rarity of the injury: The patient, a strong muscular man, æt. 31, was, contrary to orders, attempting to put a strap on a rapidly revolving drum, when the apron he wore in front of him flapped against the machinery, became at once entangled, and he was carried round the shaft or axle of the drum with each revolution. The shaft was not more than two feet from the floor, against which, therefore, the man was dashed many times before the machinery could be stopped. When this was done he was found unconscious, and his clothes were torn from his body, and lay in shreds about.

He was at once conveyed to the Huddersfield Infirmary, where, besides bruising of the whole body, several scalp wounds, and severe shock of the system, a deformity of the legs at first sight resembling that caused by the prominence of a fragment of a broken femur was discovered. There was considerable restlessness, and the man raised both legs in his paroxysms, without any alteration of the deformity. On handling the limb at the injured spot, the tendon of the quadriceps extensor was loose, and behind the patella was a hollow cavity, produced by the displacement of the lower end of the femur behind the head of the tibia. By very slight force and manipulation the normal position of the bones was restored, but without any difficulty the joint could be re-dislocated, the femur being as easily pushed behind the tibia, on the one hand, as the tibia could be made to pass above and behind the condyles of the femur, on the other.

The patient never recovered consciousness, and died in thirty-six hours. No post-mortem allowed. In both knees there was the same displacement, without any fracture. — Norman Porritt in *Medical Press and Circular.*

TREATMENT OF FRACTURE OF THE CLAVICLE WITH SILVER SUTURES.—The unsatisfactory results which ordinarily follow treatment of fractures of clavicle, in spite of the numerous forms of apparatus at the service of the surgeon, have led Dr. Langenbuch to attempt the above method. He reports the case of a boy, ten years of age, with a fracture between the middle and outer third of the left clavicle, which he treated by cutting down on the seat of fracture and suturing the ends of the broken bone accurately together with silver wire, and the periosteal sac with catgut sutures; the wires being so twisted that the ends could not perforate the skin, the wound was treated antiseptically, the arm being fixed by a Desault bandage. An ideal result is said to have been obtained. —*Deutsche Med. Woch.—Med. News.*

CANCER, SARCOMA, AND LOCAL INJURY.—The relation of local violence to malignant disease is an unsolved question of great importance. No modern authority doubts that the origin of epithelioma is very frequently due to local irritation of the most tangible kind. Every student learns, in his text-books, about cancer of the lip and tongue which may follow the irritation of a pipe; about cancer of an old neglected ulcer of the leg, irritated by dirt and friction; and about cancer once common on the scrotum in chimney-sweeps. The irritation which certain obscure stimuli set up in the mammary gland causes, according to Dr. Creighton and his followers, an imperfect process of secretion, with formation of imperfectly developed cells, very prejudicial to the surrounding tissues; indeed, these cells appear to be the starting point of malignant disease. All these processes by which local epitheliomata and mammary tumors develop are chronic, and are not the result of what an Englishman understands by the word violence. In association, however, with this part of the question, let it be remembered that irritation means chronic injury, violence, acute injury. Irritation may produce well known forms of inflammation; it also causes malignant disease. Violence sets up equally well known types of the inflammatory process; and Mr. Barwell, at page 187, of this number of the *British Medical Journal*, brings forward three instances, all well authenticated, of sarcomata following severe blows or fractures. Two were in his own practice, one was under the care of Sir James Paget. We know of a fourth case, where a large subcutaneous extravasation of blood followed a blow on the shoulder. The fluid part of the blood was removed by an aspirator. Within a few weeks, a sarcoma developed in the shoulder, and rapidly recurred after removal. In fact, the case precisely resembled one described by Mr. Barwell. That gentleman shows, in the paper to which we have referred, that the relation of the violence to the growth of the tumor cannot be mere coincidence. It is absurd to suppose that, in his case of a youth who died after recurrence of a sarcoma which appeared on the shoulder a few weeks after receiving a blow there, malignant disease happened to be on the point of development when the injury occurred; and, if such an extraordinary coincidence could explain this case, it is otherwise with the second related by Mr. Barwell. A stevedore bruised his left side in a fall down a ship's hold; within a few weeks, he died of that comparatively rare disease, sarcoma of the lung and pleura, the left lung being the most involved. Mr. Barwell terms this condition acute traumatic malignancy.

Inflammation is, in these days, usually defined as a series of changes occurring in a part subjected to injury not sufficient to immediately and completely destroy its vitality. On the other hand, this "acute traumatic malignancy" is observed under the same circumstances as those included as part of the definition of inflammation. The ancients placed cancer among inflammations; many of the physicians and surgeons of antiquity were profound clinical observers, and must have noted some relation between malignant growths and injuries. On the other hand, as we have just indicated, there is a distinct relation between violence and irritation. The latter sets up inflammation, and also may produce malignant disease. The former decidedly causes inflammation, and more rarely, but equally surely, according to the above evidence, it may set up malignant disease as well; others, long before Mr. Barwell, whose valuable clinical records are most welcome, have recognized this fact. According to these data, inflammation and malignant disease would appear to be, very possibly, conditions actually different in every pathological sense, but liable to be produced by the same causes. It seems more probable, however, that this coincidence points to some very intimate relation of the two morbid conditions as yet unknown. In any case, acute traumatic malignancy includes an integral part of the definition of inflammation. Butler observes, in *Hudibras*, that to know what's what is as high as metaphysic art can fly. More, much more, remains to be done in pathological research before the precise nature of inflammation and of malignant disease can be recognized with sufficient accuracy to enable us to determine their precise mutual relation.—*British Medical Journal.*

NEPHRO-LITHOTOMY.—The debate which occurred at the last meeting of the Clinical Society will go far toward placing the operation of nephrotomy for the removal of renal calculi upon a definite basis. The discussion was introduced by Mr. Marcus Beck, who related the steps which he had taken for the removal of a renal calculus, which was supposed to have existed for twelve years in a man of 19. Manipulation, when the posterior surface of the kidney had been exposed in the loin, failed to detect the pressure of a stone; the kidney was then punctured with a needle, and the presence, situation, and size of the stone were demonstrated. The kidney was then incised, and a calculus of uric acid, weighing 29 grains, removed. The bleeding, which had been considerable, ceased directly the stone was extracted. The operation was performed under carbolic spray, and the patient made an excellent recovery. Urine escaped by the wound from the seventh to the eleventh day; the wound was quite healed in the fifth week after the operation. Mr. Beck added some carefully chosen remarks upon the case, which will be found fully reported elsewhere

Mr. Butlin next detailed a somewhat similar case, operated upon by himself in St. Bartholomew's Hospital. This calculus was composed of oxalate of lime, and was "about as large as a filbert." The patient was twenty years of age, and made an excellent recovery. Dr. Whipham and Mr. Haward then related two cases. The former was that of a woman, aged 23, from whom a phosphate of lime calculus, weighing 47 grains, was removed. This patient also did extremely well. In the second case, where the patient, a woman, was fifty-six years of age, there was a prominent swelling in the left groin, which was incised by Mr. Haward; a copious discharge of pus occurred, and pain was relieved, but no calculus could be found. The kidney and tissues were firmly matted together, and after an enlargement of the wound a month after its original production, the patient sank. After death, the kidney lay in a purulent cavity, with which its pelvis communicated by a large irregular opening. Fragments of calculi existed in the calyces of the kidney; and a large calculus was found in the right kidney. These three successsful cases in early adult life clearly indicate that the dangers of nephro-lithomy are no greater than care and caution on the part of the surgeon may reasonably be expected to guard against; and that the renal tissue is not to be considered charmed ground, upon which the surgeon's knife may not venture. But the fatal case detailed by Mr. Haward, as also another related by Mr. Morrant Baker, in which there was a sacculated kidney, with much pus and a phosphatic stone weighing two ounces, and in which the patient also sank, indicate that caution is necessary in the choice of cases for the operation. In the fatal cases, the ages of the patients were more advanced, being fifty-six and forty-three respectively, apparently a point of some importance. The disease in each patient, too, was of old standing, and pus was present in the urine in large quantities. For this class of cases, Mr. Baker advised removal of the whole kidney where practicable. As Mr. Barwell suggested, it will be interesting to watch the successful cases, and see if there be any reformation of calculus. The calculi were as may have been perceived, of all kinds. As one result of this discussion, the nephro-lithotomy cannot fail to become a recognized method of affording surgical relief, in a class of serious cases hitherto often considered to be beyond the pale of the surgeon's art.

OBSTETRICS.

THE TAMPON A SUBSTITUTE FOR THE PESSARY. Dr. Robert Bell, of Edinburgh, uses the tampon as a substitute for the pessary in cases of various deviations of the uterus with remarkable success. He recognizes that habitual constipation, meteorism allied with dyspepsia, and catarrh of the bladder are its frequent cause and declares that he has used the tampon in more than 200 cases with such success as to do away altogether with the use of pessaries. In fact he has entirely discarded pessaries in his practice.

He uses cotton saturated in a solution of alum depuratum 30.0, acid carbolic crystallisat. 3.75, glycerinum depuratum 240.0.

Glycerine relieves metritis or uterine hypertrophy by its property of absorbing water and thus driving the blood through the thickened uterus.

In prolapse which is caused by increase of weight, by defective support, by pressure from above, or by a combination of any or all these factors, he finds the tampon especially effective. Any perineal rupture must be relieved first of course and any deviation must be overcome and then retained in its proper place by the tampon which, saturated in the solution mentioned, is to remain in situ three or four days. The tampon thus introduced causes such an abundant excretion of water from the vagina that the patient must wear a napkin. The treatment must be continued to insure perfect success for from two to seven months.

In versions and flexions where pessaries had been tried in vain, and could not often be endured on account of pain, a double tampon should be introduced, one behind the cervix in the space of Douglas and one in front of the cervix. In this way such leverage is gained as to tip the uterus straight.

Under no other treatment does catarrh of the bladder so rapidly subside.—*Med. Neuigkeiten*, February 25, 1882. J.T.W.

ATROPIN IN MENORRHAGIA.—Dr. Jacke believes that hypodermic injection of sulphate of atropin is a much surer means of arresting internal hæmorrhages such as occur from the lungs or uterus, than the administration of ergot. The author was first led to observe the influence of atropin upon menorrhagia by the fact that he administered it in a case of eczema about the time of the menstrual flow, thereby alleviating both the cutaneous affection and the abnormal loss of blood. The action of the drug in arresting hæmorrhage is rapid, and may be observed within a quarter of an hour of the injection. The formula recommended by the author is—

℞ Atropin. sulph. 0 01.
Aq. dest. 10·0.

M. Sig. 0·3 gram to be injected twice or thrice a day hypodermically. (*Der Praktische Arzt*, No. 4, 1881.)

Dilatation of the Cervical Canal for Spasmodic Dysmenorrhœa and Sterility.—Dr. Godson prefaced his remarks at a recent meeting of the Obstetrical Society of London, by sketching the history of the method, introduced more than fifty years ago by Dr. Mackintosh, of Edinburgh, and lately advocated by Dr. Mathews Duncan. Out of ten patients suffering from dysmenorrhœa with sterility, treated by the author, five had become pregnant. The dysmenorrhœa was characterized by severe colicky pains in the hypogastric and sacral regions, either before the flow or coincident with it. He preferred to drop the term "obstructive," as he knew of no evidence that there was want of patency of the cervical canal, and Duncan had passed a probe into the uterus at the height of the pain without meeting with obstruction. He believed that spasm of the uterine muscular tissue was enough of itself to give rise to the severe pain, without any obstruction. After giving brief notes of five cases, the author gave the following conclusions: 1. That the method was simpler and safer than any other proposed. 2. That the dilatation might be done safely at the physician's house. 3. That a very small amount of dilatation is necessary. 4. That it should be done a week or ten days after a menstrual flow. 5. That it should be done not on successive days, as hitherto recommended, but all at once; that the first bougie should be a small one, and that there should not be enough difference in size between the successive bougies to split the mucous membrance. 6. That pregnancy appeared to take place on account of the dilatation having cured the conditions on which the dysmenorrhœa depended. In none of the author's cases was there either stenosis or constriction of the canal by acute flexion. In one instance the relief of the dysmenorrhœa proved only temporary, and a cure was afterward effected with an intra-uterine stem. One patient was lost sight of; the three others (of the five whose stertility was not cured) were relieved of dysmenorrhœa.

Dr. Graily Hewitt regarded dilatation as unnecessary in cases in which the uterus was unduly soft and pliable, but in long standing cases it was of great assistance. He used a two-bladed dilator, acting like a glove-stretcher.

Dr. Heywood Smith thought it best to have the uterine portion of the instruments straight, not curved as in the dilators shown.

Dr. Routh did not see what advantage the method had over that by dilatation with laminaria tents, followed by the employment of an intra-uterine stem. An analogous plan had formerly been used at the Samaritan Hospital, but had been abandoned, proving not to be so free from danger as had been stated. The effect was transitory, unless pregnancy occurred very soon, and the pain induced was sometimes very great. In cases of flection it was often difficult to pass even a bent sound, and the use of a straight dilator in such cases would be liable to set up inflammation.
—[*Transactions Obst. Soc. London, Brit. Med. Jour.*
—*N. Y. Med. Jour. & Obst. Review.*

Treatment of Cysts of the Labia Majora.—After trying a great number of fluids, chloride of zinc amongst the rest, M Chéron finds that none act so well as the liquor de Villate (Liq. plumbi subacetatis 120: zinci sulph. 60: cupri sulph. 60: acidi acetici 800) either pure or mixed with one-fifth of distilled water. A grain of this fluid should be injected without removing any of the contents of the cyst. The patient does not ordinarily feel any pain from the operation, but occasionally a burning sensation may be experienced in a few hours. On the next day or next but one, when the tension in the cyst has subsided another gram of the liquid is injected, and the operation is repeated three or four times during the week. The cyst is then left untouched, and it will be found gradually to diminish in size until there is only a small indurated mass left which undergoes resolution after the application of the unguentum extracti digitalis, made according to the following formula:—

℞ Extract. digitalis, 4 grams.
Vaselin. 40 grams.

Sig. A piece the size of a pea to be rubbed in morning and evening. (*Le Progres medical*, Oct. 29, 1881.)

Is there a "Field" for Battey's Operation?—This question is asked in the last number of the American Gynecological Transactions. Before answering it we looked out "field" in the dictionary. We found a field thus defined: "A piece of land enclosed." A field, then, is a field by virtue of hedges or other limits. We are able therefore to answer the question in the affirmative, and need not surely remind oöphorectomists (especially in America, but also in England) that a field is not a *prairie*.—*London Lancet.*

OPHTHALMOLOGY—OTOLOGY.

The Optic Tracts and the Visual Centres. Tartuferi has in the Pathological Laboratory of Turin conducted a series of experimental researches on the optic tract and the visual centres in the cerebral ganglia and cortex cerebri. From a note in the *Italia Medica* (No. 5, 1880), it appears that he has arrived at the following conclusions:—

I. Where the corpus geniculatum externum appears to be smaller it is often dependent upon the sclerosis of the optic tract which extends over it.

2. It is not true, as up to this time has been stated by anatomists, that all the fibres of the corpus geniculatum externum belong to the optic tract. It only forms a small part of its medullary cortex, and passes over it without entering into any intimate connection.

3. The corpus geniculatum externum cannot be considered as belonging to the mesocephalic centres of the apparatus of vision. Assuredly, at least, it has not the important significance which some anatomists would attribute to it.

4. The inferior commissure of Gudden is not, as its discoverer imagines, a simple commissure between the two optic thalami and the two corpora geniculata interna.

5. The greater part of the inferior commissure of Gudden. which is in connection with the two corpora geniculata, and especially with the external one, probably goes to compose the inferior portion of the superficial white and grey layer.

6. There are no fibres of the optic tract on the surface of the optic thalamus.

7. The thalamus is not a visual centre.

8. What is called the inner root of the optic tract going to the thalamus (innere Sehhügelwurzel of Meynert, or tiefere Wurzel-bundel of Studa) does not belong to the optic tract.

9. The fibres which compose the so-called root of the corpus geniculatum internum (Huguenin) does not belong to the optic tract, but to the inferior commissure.

It results from these four last conclusions that of the five roots of the optic nerve recently admitted (Huguenin, 1879) there is only one real root which passes over the corpus geniculatum externum without entering into it, and goes to the anterior tubercle of the corpora quadrigemina.

10. The diminution of the punctus occipitulis is due to atrophy, and not, as Gudden says, to a sinking, owing to the diminution of the anterior tubercles of the corpora quadrigemina which lie below it.

11. The point of the occipital lobe in the rabbit constitutes the cortical centre for the apparatus of vision. This has been confirmed by experiments upon monkeys, cats and dogs, as well by pathological observations on man.—*Brach.*

OPACITY OF THE VITREOUS BODY.—At a recent meeting of the Academie of Medicine, Dr. Teulon read an interesting report on opacity of the vitreous body and its treatment by electrotherapy. In twenty-four patients observed by him and treated by continuous current, he reckoned twenty-two radically cured. He employs a very low number of elements, and applies the positive pole upon the closed eyelids, and the negative on the mastoid process or upon the superior cervical ganglion. The application lasts only two or three minutes. In conclusion M. Teulon observed that in every opacity of the vitreous body, no matter what may be its degree or extent, provided that its development has not assumed the confirmed form by hypertrophy, from experience he considered the constant continued current as the most efficacious treatment. —*Medical Press and Circular.*

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Cincinnati, March 25th, 1882.

Miscellany.

DEAN SWIFT'S DISEASE.—During the past autumn I received a letter from a gentleman engaged in a literary work, requesting my opinion on the "mysterious disease" of the great author and wit, whose name distinguishes this paper. My interlocuter particularly wished to know whether the same part of Swift's life was likely to have been in any way effected by the latent presence of insanity; whether a correct diagnosis was possible; whether parallel cases were on record; and, finally, whether a surfeit of green fruit, at the age of twenty-three years, was capable of resulting in the absolute fatuity from which the patient suffered at seventy-five.

This questioning has stimulated me to an investigation which I had thought was already thread-bare, but which I found full of interest; and when I say that, upon weighing the evidence, it will probably be acknowledged that Jonathan Swift's mysterious disease was an instance of that curious form of disease, Labyrinthine Vertigo, or Le Maladie de Meniere, the knowledge of which is one of the most recent triumphs of pathological research directed by physiological experiment, it will scarcely be thought that it was needless to reopen a controversy in which already everything had been said which ought to have been said, and not a little which ought not to have been said.

When Dr. Beddoes suggested that Swift's ailments and his conduct towards women were due to dissolute habits in youth, Sir Walter Scott replied, that "until medical authors can clearly account for and radically cure the diseases of their contemporary patients, they may readily be excused from assigning dishonorable causes for the disorders of the illustrious dead." But if Dr. Beddoes were unquestionably wrong in making such a suggestion without evidence, Sir Walter Scott was scarcely right in making his retort too general; for if medical opinions respecting the states of mind of persons who have departed this life must be forgiven until medical men can ensure the radical cure of diseases, not only will much valuable evidence respecting the validity of wills be excluded, but the science of pathology itself, depending upon the history of diseases and verified by observations made after death, must be interrupted until an event which seems impossible has taken place.

Whether the causes of disease are or are not dishonorable, and whether the subjects are or are not illustrious, has nothing to do with the scientific question; and the often-quoted sneer of Swift's greatest biographer at the medical profession seems, when examined, as silly as general sarcasm usually is. Undeterred by such sarcasm, an eminent medical man did investigate the causes for the disorders of the illustrious dead, in a work which he modestly called an Essay, published in 1849, and entitled "The Closing Years of Dean Swift's Life," &c., by W. R. Wilde, M.R.I.A., F. R.C.S. This little work, marked by the excellencies of careful research, sound reasoning, moderate opinions and fair conclusions, would have rendered futher discussion needless if medical science had stood still since its publication; but the advances made in medical psychology during the past thirty-two years might give us some excuse for reconsideration even if Meniere had never made his discovery of a definite form of disease previously unrecognized, which appears to conform in all important points with the life-long disease of the illustrious Dean.

Even in Swift's latest biography, or rather that fragment of one which so strongly makes us feel that touch of the vanished hand of the most appreciative critic of men of letters, the late John Forster's charming volume, the author speaks of Swift's giddiness and deafness, not as symptoms of one disorder, but as "two life-long enemies," and it is a curious enough fact that Swift himself attributed the origin of these two enemies to different causes, operating at different periods. In a letter to Mrs. Howard in 1727 he writes: "About two hours before you were born I got my *giddiness* by eating a hundred golden pippins at a time at Richmond; and when you were four years and a quarter old, bating two days, having made a fine seat further in Surrey, where I used to read, there I got my *deafness*, and these two friends, one or other, have visited me one or other every year since: and, being old acquaintances, have now thought fit to come together." Mrs. Howard having been born in 1690, the date of the deafness given in this letter would be 1694, when Swift was twenty-seven years old. But in a passage quoted by Forster, p. 48, Swift wrote, "In England before I was twenty I got a cold, which gave me a deafness that I could never clear myself of. . . . my left ear has never been well since."—April 30, 1737.

One cannot but concur in Johnson's remark on the above, that "The original of diseases is commonly obscure, and almost every schoolboy eats as much fruit as he can get, without inconvenience." But it may also be remarked that if Swift had been "a contemporary patient," although we might not have effected a radical cure of his disease we should at least have understood enough of its origin and nature to have saved him from tormenting himself by a lifelong abstinence from fruit, of which he was passionately fond, under the belief that it had caused and continued to excite his disease by inducing that "coldness of stomach to which he attributed his vertigo and its accompanying sickness."

In a letter of 1708 he says that, "I was through a long time pursued by a cruel illness that seized me at fits and hindered me from pursuing any business." It is possible that this illness was but a return of the dangerous colic from which he suffered in 1696; and it is not until 1710 to 1713, and while residing in London, that he describes in some detail the symptoms of his lifelong complaint in his "Journal to Stella." The most descriptive passage is perhaps the one dated Oct. 31, 1710:—

"This morning, sitting in my bed, I had a fit of *giddiness;* the room turned round for about a minute, and then it went off, leaving me *sickish*, but not very. I saw Dr. Cockburn to-day, and he promises to send me some pills that did me good last year; and likewise has promised me an oil for my *ears*, that he has been making for that ailment for somebody else."

A fit of giddiness, with sickness and ear-disease, is not this labyrinthine vertigo?

On different days in *Jan.* 1711 he writes:—

"I had an ugly fit in my chamber last night." . . . "My head is now in order, and yet not absolutely ill; but giddyish, and makes me listless." . . . "One fit shakes me a long time."

Feb. 1,—"I walked into the City to dine, but I walked plaguey carefully, for fear of sliding against my will."

April 18.—"I did not go to the House of Commons about the yarn; my head was not well enough. I know not what is the matter. It has never been thus before; two days together giddy from morning till night, and I totter a little, but can make a shift to walk."

In *May:* "I do not totter as I did, but walk firm as a rock, only once or twice for a minute."

Sept. 1st. He notes an important peculiarity, distinguishished cerebral from stomachic vertigo:—"My head is pretty well; only a sudden turn at any time makes me feel giddy for a moment, and some times it feels very stuffed."

The Journals of October show that he distinguished ordinary from vertiginous headache:—

"My head has ached a little in the evening, but it is not of the true giddy sort, so I do not much value it." . . . "I had a little turn in my head this morning, which, though it did not last above a minute, yet being of the true sort, has made me as weak as a dog all this day."

During the years of residence in London which embrace the period of the "Journal to Stella," his other enemy, deafness, is only referred to incidentally, as when he compares it to that of the Lord Treasurer; but after his return to Ireland, his deafness becomes sufficiently severe to make him complain.

In 1720 he writes: "What if I should add that once in five or six weeks I am deaf for three or four days."

In 1724 he writes:—"I have been this month past so pestered with a return of the *noise* and *deafness* in my ears that I had not the spirit to perform the common offices of life." Subsequently, in the same year: "My deafness has left me above three weeks, and therefore I expect a visit from it soon." It was evidently periodic and paroxysmal, like the giddiness.

He complains in another letter of an old vexatious disorder of a deafness and *noise* in the ears. In 1827, in a letter to Sheridan, he says that his deafness is worse than it ever before had been, and that it is accompanied by giddiness and tottering. "I believe," says he, "that this giddiness is the disorder which will at last get the better of me." And again, "I walk like a drunken man, and deafer than ever you knew me."

In 1728, in "about eight months," says Wilde, "he had half-a-dozen attacks of the giddiness and sickness, each of which lasted about three weeks." But in 1731 he wrote to Mr. Gay, "The giddiness I was subject to, instead of coming seldom and violent, now constantly attends me more or less, though in a more peaceable manner, yet such as will not qualify me to live among the young and healthy." In 1736, writing to Pope, "years and infirmities have quite broke me. I mean that *continual* disorder of my head." In 1737, to Alderman Barker, "I am forced to tell you my health is much decayed; my deafness and giddiness more frequent; spirits I have none left; my memory is almost gone."

Long before, however, these had commenced. Impairment of memory he complained of as early as 1713, after the attack of shingles; and later on in the same year he speaks of his horrible melancholly changing into dulness, and from thenceforth, increasing irritabiltiy of temper and mental depression are traceable throughout his history and correspondence. Not that he was at any time really of unsound mind or incapable; for when in 1737, in the Bettesworth affair, a gratifying address was presented to him, it is recorded that "when this paper was delivered Swift was in bed, giddy and deaf, having been some time before seized with one of his fits; but he dictated an answer in which there is all the dignity of habitual pre-eminence and all the resignation of humble piety."

The above quotations are but a selection from a far greater number of references which might be made to Swift's letters and journals, affording conclusive evidence, as I venture to think, that he suffered from twenty years of age from the disease, whose characteristic symptoms are, "that the patient is suddenly seized with vertigo and a feeling of nausea or positive sickness, with great constitutional depression and faintness. Usually the giddiness comes on simultaneously with ringing or buzzing in one or, it may be, both ears."—*Ferrier.*

It has this year been pointed out by Féré, in the "Revue de Médecine," that there are two forms of the disease to be recognized, "une forme grave avec état vertigineux á peu prés permanent interrompu par les paroxysmes, et une forme moins facheuse, constitutée par des accés séparés par des périodes de santé parfaite." "Dans la forme bénigne [of which Swift's was an example] les accés ne se produisent quelquefois qu'á des distances trés éloignées. E. Ménière cite une malade qui eut une rémission de onze mois. Pendant ces périodes d'accalmie, la surdité persiste avec une intensité variable, et elle s'accompagne souvent des sensations subjectives intermittentes de l'ouïe. La maladie elle-même dure tant que lo surdité n'est pas absolue."

Up to the date to which we have traced the progress of the disease, it appears to have been purely a physical malady, with no mental symptoms, unless some degree of loss of memory can be so called. Swift, indeed, complains bitterly of of the impairment, as if memory was gone, and in his declining years of age and sickness it may have been a dull function compared with the brilliant faculty he once possessed. But clearly the memory was still serviceable which enabled him to compose, with wonderful vivacity, even such poetry as that outburst against political and social corruption—"The Leigion Club"—which Jeffrey thinks "deserving of attention as the most thoroughly animated, fierce and energetic, of all Swift's metrical compositions; and though the animation be altogether of a ferocious character, and seems occasionally to verge upon absolute insanity, there is still a force and terror about it which redeems it from ridicule, and makes us shudder at the sort of demoniacal inspiration with which the malison is vented." This poem, written in 1736, was his last work; its appreciation by his most hostile critic will show how little he suffered from loss of any mental faculty when he wrote it. That disease and grief had made him irritable and passionate, and often desponding, is clear enough from his correspondence and the accounts of him which have come down to us; but that there was any failure of mind this "Legion Club" fully disproves; and if fiercely expressed hatred is any evidence that an author is on the verge of insanity, Jeffrey must have been curiously insensible to the testimony he was bearing against his own soundness of mind in his criticism of the greater master of his own art.

Between 1736, when Swift wrote "The Legion Club," and 1741, when the outbreak of insanity really took place, there can be no doubt that he passed through a period of great wretchedness and depression—he was "miserably ill." He had lost to a great extent two of his senses, for he was deaf and his eyesight failed: his dearest friends had died before him, and his public sympathies were constantly outraged.

In 1738 he wrote to Alderman Barker, "I have for almost three years past been only the shadow of my former self, with years of sickness and rage against all public proceedings, especially in this miserable oppressed country. "I have entirely lost my memory, except when it is aroused by perpetual subjects of vexation."

Two years later he wrote the following pathetic letter to his old friend Mrs. Whiteway:—

"I have been very miserable all night, and today extremely deaf and full of pain. I am so stupid and confounded that I cannot express the mortification I am under, both of body and mind. All I can say is that I am not in torture, but I daily and hourly expect it. Pray let me know how your health is, and your family. I hardly understand one word I write. I am sure my days will be very few; few and miserable they must be. I am for these few days yours entirely,

"J. SWIFT."

"If I do not blunder it is Saturday."

A very pitiful state this period of becoming insane, and yet not having become so. But even at this late date one cannot recognize the invasion of mental disease. Misery and despondency there was, more than enough, but not madness, unless Job was mad. But Swift was rapidly tending towards madness, and he knew it, for strong forebodings of insanity, which are not common, existed in him in a remarkable degree. Sir Walter Scott says that "his first attack was that of violent and furious lunacy;" but Sir William Wilde points out that all the biographers have had no other sources of information as to the outbreak and history of his insanity than two letters; one from Mrs. Whiteway, and one from his cousin, Mr. Deane Swift.

Mrs. Whiteway wrote Nov. 22, 1742, as follows omitting some expressions of feeling:—

"I was the last person whom he knew, and when that part of his memory failed he was so outrageous at seeing any body that I was forced to leave him, nor could he rest for a night or two after seeing any person. He walked ten hours a day, would not eat or drink if his servant stayed in the room. His meal was served ready cut, and sometimes it would be an hour on the table before he would touch it, and then eat it walking. About six weeks ago, in one night's time his left eye swelled as large as an egg, and the lid, Mr. Nicholls [his surgeon] thought would mortify, and many large boils appeared on his arms and body. The torture he was in is not to be described. Five persons could scarcely hold him, for a week, from tearing out his own eyes; and for near a month he did not sleep two hours in twenty-four. Yet a moderate appetite continued; and, what is more to be wondered at, the last day of his illness he knew me perfectly well, took me by the hand, called me by name, and showed me the same pleasure as usual in seeing me. I asked him if he would give me a dinner? He said, 'to be sure, my old friend.' Thus he continued that day, and knew the doctor and surgeon and all his family, so well that Mr. Nicholls thought it possible that he might return to a share of understanding, so as to be able to call for what he wanted, and to bear some of his old friends to amuse him. But alas! this pleasure to me was of short duration; for the next day or two it was all over, and proved to be only pain that had aroused him. He is now free from torture, his eye almost well, very quiet, and begins to sleep, but cannot without great difficulty be prevailed upon to walk a turn about his room; and yet in this way, the physicians think, he may hold out for some time."

The only other authentic account from personal knowledge is contained in the letter of Mr. Dean Swift to Lord Orrey, dated April 4th, 1744. After stating that a thousand stories of the illness had been invented and imposed upon the world, he proceeded to state some facts witnessed by himself.

"On Sunday, the 17th of March, as he sat in his chair, upon the housekeeper removing a knife from him as he was going to catch at it, he shrugged his shoulders, and rocking himself, he said, 'I am what I am. I am what I am;' and about six minutes afterwards repeated the same words two or three times over. Sometimes he will not utter a syllable, at other times he will speak incoherent words; but he never yet, as far as I could hear, talked nonsense, or said a foolish thing. About four months ago he gave me great trouble. He seemed to have a mind to talk to me. In order to try what he would say, I told him I came to dine with him, and immediately his housekeeper, Mrs. Ridgeway, said, 'Won't you give Mr. Swift a glass of wine, sir?' he shrugged his shoulders, just as he used to do when he had a mind that a friend should not spend the evening with him. Shrugging his shoulders, your Lordship may remember, was as much as to say, 'you'll ruin me in wine.' I own I was scarce able to bear the sight. Soon after he again endeavored, with a good deal of pain, to find words to speak to me; at last, not being able, after many efforts, he gave a heavy sigh, and I think was afterwards silent. This puts me in mind of what he said about five days ago. He endeavored several times to speak to his servant [now and then he calls him by his name]; at last, not finding words to express what he would be at, he said, 'I am a fool.' Not long ago the servant took up his watch that lay upon the table, to see what o'clock it was; he said 'bring it here,' and when it was brought, he looked very attentively at it. Some time ago the servant was breaking a large stubborn coal, he said, 'that's a stone, you blockhead.' In a few days, or some very short time after guardians had been appointed for him, I went into his dining-room, where he was walking; I said something to him very insignificant, I know not what, but, instead of making any kind of answer to it, he said, 'Go, go,' pointing with his hand to the door, and immediately afterwards, raising his hand to his head, he said, 'My best understanding,' and so broke off abruptly, and walked away."

These two letters are stated by Sir William Wilde to be the only account of the last three years of Swift's life that has come down to us. He died October 19th. 1745, in the seventy-eighth year of his age. His death, according to Lord Orrey, being easy, without the least pang or convulsion; but, according to Faulkner, being one of "great agony, with strong convulsive fits" for thirty-six hours before. The only record of the autopsy which was made is that Mr. Whiteway opened the skull, and found much water in the brain." A more interesting record. however, remains in the plaster cast of Swift's head. Of this Sir Walter Scott says that "the expression is most equivocally maniacal, and one side of the mouth horribly contorted downwards as if in pain." But Sir William Wilde, whose observation we greatly prefer in such a matter, says: The expression is remarkably placid, but there is an evident drag on the left side of the mouth, exhibiting a paryalysis of the facial muscles to the right side. Upon the back of the cast are two lines of writing, greatly defaced, of which this much can still be read, 'Dean Swift, taken off his * * * the night of his burial, and the f * * * one side larger than the other in nature * * Opened before * * * The mould is in pieces." A deep indentation, says Wilde, shows where the calvarium had been sawn; and accurately corresponds with the division of the skull found in Swift's coffin in 1835. On the same excellent authority we know that the cast of the interior of Swift's skull is remarkable as showing the enormous development of the vessels within the cranium, the very small anterior lobes, the great size of the glandulæ pacchioniæ, the exceedingly small cerebellum, a natural formation as may be seen by the very low position of the tentorium, the immense size of the posterior and middle lobes, particularly the former, and the absence of any appearance of disease in the anterior lobes, as far at least as this cast of the interior of the skull is capable of demonstrating.

Swift of course was not exempt from intercurrent diseases, the most important of which appear to have been a severe colic in 1696, which brought him to extremity, "so that all despaired of my life, and the newspapers reported me dead;" an attack of herpes zoster of the left neck and shoulder, with its atrocious after-pains, in 1712; and a severe attack of ague in 1720, which lasted a whole year. But these maladies appear to have passed away without permanent injury, and it is to the cold which, before he was twenty, gave him a deafness and an ear "which has never been well since," to which we must look as the origin of his physical and ultimately of his mental miseries, and which made him often describe himself as

"Vertiginosus, inops, surdus, male gratus amicis."

He does not appear ever to have guessed that his vertigo was due to the state of the auditory organ, nor indeed did any physician ever suspect that such was the case in anyone suffering from ear-giddiness, until, led to reflect on the subject by Fleuren's experiments on the semicircular canals of pigeons and rabbits, Meniere recognized the causal connection in 1861. The paroxysmal nature of the affection, with long intervals of immunity, is well marked in Swift's case although it would appear from a quotation made by Forster, p. 253, from one of his note-books, that the fits were pretty frequent, the reference to fits in his journal and correspondence only applying to the more serious occasions. The quotation is as follows:

"1708. *Nov.*—From 6th to 16, often giddy. G'd help me. So to 25 less. 16, Brandy for giddiness 2*s.* Br'dy 3d. *Dec.* 5.—Horribly sick. 12*th.*—Much better, thank God and M. D.'s prayers. 16*th*—Bad fit at Mrs. Bartons. 24. Better; but dread a fit. Better still to the end. 1709, *Jan.* 21*st.*—An ill fit but not to excess. 20. Out of order. 31. Not well at times. *Feb.* 7.—Small fits abroad. Pretty well to the end. *March.*—Headache frequent. *April 2nd.*—Small giddy fit and swimming in the head. M. D. and God help me. *August.*—Sick with giddiness much. 1710. *Jan.*—Gidd. *March.*—Sadly for a day. 4*th.* Giddy from 4th. 14*th.*—Very ill. *July.*—Terrible fit. G'd knows what may be the event. Better towards the end."

It is true that the paroxysms were not so numerous as those of most other cases of the disease which are on record, and also that the deafness never became absolute, and therefore that the disease never ceases. It increased in intensity as life advanced, until it confined him to his chamber for weeks at a time. It is also to be remarked that a slight degree of vertigo caused great constitutional disturbance. "I had a little turn in my head this morning, which, though it did not last above a moment, yet, being of the true sort, has made me as weak as a dog all this day." —*Journal*, Oct. 23, 1711. "This morning I felt a little twitch of giddiness, which has disordered and weakened me with its ugly remains all this day."—*Journal*, Jan. 25, 1812. Another characteristic of the vertigo, noted in a quotation already given, is that at one time any slight movement of the head brought it on.

It is certain that this fearful disease, aggravated with the increase of years, had an influence in the causation of Swift's insanity; but that its influence was direct, that is to say by the extension of the local disease to the brain, is by no means so sure as its indirect effect as one source of the profound depression which marked the latter years of his sane life. We have no authentic account of the first outbreak of insanity, and Sir Walter's statement that, after his understanding failed, "his first state was that of violent and furious lunacy," would seem to have been appliable only to that later period when he suffered indescribable torture from some unknown local disease, producing exophthalmos of the left eye. It is clear there was emotional depression amounting to melancholia, and "much water in the brain," which was probably a sub-arachnoid effusion, is sufficient evidence of dementia. But there was also that form of aphasia in which scraps of reasonable language come automatically, though intentional effort can produce no words, and very curiously in connection with this fact comes the evidence of the plaster-cast, "brought to light a hundred years after death," that there was right-sided hemiplegia. The knowledge of the importance of this fact also has been acquired since Sir William Wilde wrote his work, and it is not therefore surprising that while he so carefully and skillfully marshals the data upon which our diagnosis is now made, he does not connect the right-sided hemiplegia with the very peculiar affection of speech recorded by one of the two authentic witnesses above quoted. Sir William Wilde expresses the opinion that the hemiplegia had existed for several years before death, "for we find the same appearance much glossed over by the artist, together with a greater fullness or plumpness of the right cheek shown in a very admirable bust, probably the last ever taken." But as Wilde admits, the "six well-known busts of Swift, undoubtedly taken about the same time, exhibit six different forms of head bearing but little resemblance to each other," the much glossed over appearance can therefore scarcely be admitted as evidence. Probably the stroke of palsy recorded in the plaster cast had taken place unobserved at or about the time of the actual outbreak of the mental disorder, which might have masked the physical symptoms from observation.

When "the Vandal desecration of monuments" in 1835 exposed Swift's skull to the phrenologists, the great Dublin aurist might possibly have found in the bones of the ear traces of the cause of his giddiness. When Mr. Whiteway examined the brain, he might have found the cause of Swift's right-sided hemiplegia and his aphasia. It is enough now that we can diagnose his lifelong disease as labyrinthine vertigo, and his insanity as dementia with aphasia; the dementia arising from general decay of the brain from age and disease, the paralysis and aphasia from disease of one particular part of the brain.

With all the tortures of the lifelong disease from which he suffered, and its obvious effect upon his temper in his later years, it is wonderful that Swift did retain his reason until, in the seventy-fourth year of his age, he was in all probability struck down by a new disease in the form of a localised left-side apoplexy or cerebral softening, which determined the symptoms of his insanity.

That Swift's works contain no indications of insanity appears to me certain. As well say that Shakespeare was mad because he wrote a good deal which we think nasty.' In the fashion of the day, Swift was too prone to make what may be called excrementitious jokes and jibes. But that perfect gentleman, Antonio, voided his rheum upon Shylock's beard; and the same kind of thing runs through our literature, no one objecting, until we rather recently began to become less natural and more nice. Some of our smaller humorists and men of letters have criticised this great king of humor as if he were both bad and mad, not perceiving that if he were really insane he must be pitied and not cursed. But it is the weakest of arguments to say, with Festus, for want of argument, "much learning doth make thee mad." There is always weakness in madness, but there is little sign of this in Swift's works. There is always some inconsequentness or incoherency in madness, but there is none of this in Swift. Down to that last letter to Mrs. Whiteway he is most wretched, but he is still collected and wholly himself.

One final consideration is that the oppressive and disabling nature of Swift's lifelong disease has been greatly underrated in the more severe of the criticisms which have been made with regard to his conduct to Esther Johnstone. I do not know that labyrinthine vertigo would necessarily incapacitate a man for the performance of marital duties, but it certainly might be a barrier to them more formidable than unprofessional critics are likely to suppose possible. Dr. Beddoes suggested that Swift was impotent from youthful dissipation, of which there is not a title of evidence. May not the great and grave disease o which I have adduced such copious evidenc have been the real reason why Swift did not liv with the woman whom it is certain that he love with the most tender and persistent devotion.—Dr. Bucknill in *Brain*.

CUCUMBER OR CARBOLIC ACID.—America is suffering in a very marked degree from the pollution of drinking-water which is so apt to be the Nemesis of the accumulation of great city populations, unless primary regard be paid to scientific sanitation, and especially to the supply of pure drinking-water, as well as the preservation of purity in the soil and air. The drinking-water of the great cities of America appears to be in some instances little better than sewage-water, and in numerous cases the pollution of potable water in great cities is such as to cause, at the present moment, considerable disgust on the part of city residents, and to call for government intervention, which is unfortunately slow, and not always satisfactory in its action. From comparative results which have been published by Dr. A. R. Leeds in the *Chemical News*, it would appear that the water at Newark, Jersey City and Hoboken, had become suddenly noticeable for the highly marked flavor of carbolic acid, indicating that the pollution of that particular water-supply was at that moment of an especially chemical nature. When the board was made aware of the nuisance, it was ingeniously urged that water was all the better for being polluted with carbolic acid, inasmuch as it served to disinfect the other kinds of filth which got into the drinking-water. This plea, however ingenious, was not held to be good in law, and so for the moment, the inhabitants of Newark, Jersey City and Hoboken, have to drink their potable water without the preliminary disinfection, which made it more unpleasant to the taste, if less noxious to health. Boston is suffering from what is described as a striking and interesting and scientific peculiarity. Its drinking-water shows an albumenoid ammonia to the extent of 0.0605, a statement which analytical chemists and medical officers of health will read with grim surprise. It is stated, however, that the peculiar interest is, that this is due, first, to the pollution by a few manufacturing towns, and secondly, to the growth of algæ. There is especially an extremely interesting and rare fresh-water sponge, *Spongilla fluviatilis*, which accounts for the peculiar "cucumber taste." It is that the Boston people would be more reconciled to the "cucumber taste" if they took a little more scientific interest in the *Spongilla fluviatilis*, which is accordingly elaborately described and figured, and recommended as an object of interest under the microscope. Another source of pollution of the Boston water is Pegan Brook, which flows through a town of ten thousand inhabitants, almost entirely engaged in the dressing of leather and manufacture of shoes; the outflow from which factories is supposed to complicate the "cucumber flavor." Philadelphia and New York also, it appears, receive their water from polluted sources. The feeders, which empty themselves into Croton Lake, the principal reservoir of New York water, pass through a settled country, with numerous tanneries, factories, etc., along their banks. Wilmington, Del., also ranks among the towns supplied with polluted water. Under these circumstances it is satisfactory, that an energetic effort is promised to maintain the public interests and to protect the public health by improving the sources of water supply, and guarding them against contamination; and, meantime, it is not surprising that Appolinaris water is stated to have become so general a favorite in the United States, that its consumption there as a daily table water equals that of Great Britain. —*British Medical Journal.*

THE ETIOLOGY OF SCARLATINA. Dr. Eklund, of Stockholm, has for several years devoted much time to the study of the pathology and etiology of scarlatina, which is constantly present in the Swedish capital, and rarely absent from the barracks and other dwellings on the Isle of Skeppsholm. The results at which he has arrived cannot fail, if confirmed by other observers, to be of the highest practical importance as solving the connection, too frequently seen to be ignored or explained away, between bad drainage or other insanitary conditions and outbreaks of scarlatina, which otherwise must be admitted to have been produced spontaneously—*i. e.*, without actual infection. In the urine of persons suffering from scarlatina, he has constantly found a prodigious number of discoid corpuscles, oval or round, their diameter being less than $\frac{1}{1000}$ millimetre, or from a thirtieth to a tenth of that of a red blood-cell. They are colorless or yellowish white, surrounded by a distinct cell-wall, and containing a well-defined nucleus of a deeper hue; sometimes one or more nucleoli may be seen. They exhibit rotatory or oscillatory movements, especially when a drop of water is added to the fluid. They multiply themselves as he frequently observed, by fission, first of the nucleolus, next of the nucleus, and finally of the entire cell. He cannot say whether they develope into a mycelium; at any rate, the presence of fine filaments seems to be exceptional. He has never seen them to adhere in moniliform chains nor massed as zooglœa. He considers them to be veritable *schisomycetes*, and proposes the name of *plax scindens*. But Dr. Eklund most postively asserts that he has found these identical organisms in vast numbers in the soil and ground water of the Isle of Skeppsholm; in the mud from the trenches dug for the water-mains; and among the greenish moulds of the old barracks, where scarlatina was most rife. Nay, more, he alleges cases of scarlatina occuring in children after drinking mixed with the ground water of the island, and one case which followed on immersion in one of these trenches, and the drying of the child's clothes in a small room. In still another case, scarlatina broke out in a block immediately on exposure of the ground water by excavations around. Other observers have found micrococci in the animal fluids in scarlatina, but, even if they were shown to be invariably present in the disease, it would not prove they were its cause. Still less can the connection of the extra-corporeal organisms with scarlatania be demonstrated by anything short of direct verification, by inoculation into a healthy body, carefully isolated from all other sources of infection. It is the absence of this last condition of scientific precision, which casts a doubt on all conclusions drawn from accidental, or as Mr. Simon would say, popular experiments.—*Medical Times and Gazette.*

THE HORRORS OF VACCINATION.—In an amusing little article, the *St. James Gasette* recently described the vaccination (in America) of the members of Mapleson's Opera Company. Apparently these worthies regarded the operation in the light of a serious tragedy, and much excitement was created in the bosoms of all at the prospect of facing the vaccine points. "Madame Cavallazzi, as the American journalist puts it, 'bared one of her arms to the keen lancet.' Mdlles. Rossini, Cobianchia, and Lauri followed the example of Mdlle. Juch, 'who had sacrificed a lower limb.' It was generally remarked that the ladies behaved with greater heroism than the gentlemen. Signor del Peunte, so brave when he is playing the part of the bull-fighter in *Carmen*, is said to have had his eyes bandaged, 'so that he could not witness the approach of the glittering steel towards the biceps of his right arm.' Signor Gallasi, whom we last saw in London as the terrible Rinnegato in Baron Orczy's opera of that name, prayed during the operation—at least, he assured every one present that 'the fervent words he uttered were indeed a prayer.' Novari fainted and on recovery said he felt sleepy. Monti, sent for a Bible and insisted on his wife's reciting to him 'that portion of the Holy Scripture referring to the Philistines and the jaw-bone of an ass.' Campanini was not vacinnated, 'nor was his pug dog.' Mdlle. Vachot wept tears of apprehension, and required two hours before she consented to follow the example of her sister prima donnas. Madame Dotti cried, 'give the dagger,' and nearly knocked the doctor down. Colonel Mapleson faced the lancet like a true soldier, exclaiming at the same time, in the presence of the reporters, who seem to have been admitted to the trying scene, 'This may interfere with cheques and free passes,' Mdlle. Hauk declined the operation, as her husband was away in Pittsburgh, and she naturally would require solace. Arditti, with all the strings, most of the brass and a few of the flutes, was vaccinated on the left arm. One sporting character was vaccinated on both legs, and made a bet as to which leg would 'take' first. The ladies of the ballet, it is stated, declined unanimously to be vaccinated, preferring the chances of small-pox to the certainty of immediate disfigurement."—*Med. Press and Circular.*

GASTROSCOPY AND ŒSOPHAGOSCOPY. — Dr. Mikulicz, of Vienna, describes an instrument by means of which he and Dr. Leiter have been enabled to inspect the interior of the stomach of living persons. The instrument consists of a long tube, containing an insulated double electric wire, two water-channels, a fine air-channel, and a means of electric lighting for the optical apparatus. The tube is stiff, but has an angle at the junction of its lower and middle thirds, where a reflecting prism is introduced. It is passed while the patient is in a condition of morphia-narcosis, lying on his side. The stomach is washed out through the water-channels and air is pumped in through the air-channel to afford a fit medium for the inspection. Dr. Mikulicz has hitherto confined his examinations almost entirely to healthy individuals, and therefore is not yet in a position to offer much information on the value of the gastroscope for diagnostic purposes. He intends, however, shortly to publish an article in the *Wiener Med. Zeitschrift*, with a much more complete description and sketches of his instrument. —*Centralblatt für Chirurgie.*—*The Practitioner.*

GENITAL IRRITATION.—From a study of nineteen cases, Dr. Landon Carter Gray believes:

1. That there is no proof that genital irritation can produce a reflex paralysis.
2. That while it is probable that slight nervous disorders, as incontinence, retention, difficult micturition, erratic movements, and slight nervous disturbances, can be produced by genital irritation, the proof is not yet complete.
3. That operations for the removal of genital irritation may be beneficial even in organic nervous disease.
4. That we should, therefore, remove such genital irritation, if it exists in any case whatsoever, and thus give our patients the benefit of the doubt.
5. That in all cases of nervous disorders, with accompanying genital irritation, we should not regard the latter as the cause of the former until all other probable or even possible causes have been rigidly excluded.
6. That operations upon the genitals, even when there be no genital irritation, may prove to be a useful therapeutic measure in certain cases. —*Ann. of Annat. and Surg.*

FAREWELL TO BATHYBIUS.—Sir Charles Wyville Thomson's results, from his cruise in the "Challenger," show that *bathybius*, the so-called animal protoplasm having the promise and potency of all individual life, is only gypsum precipitate.

Huxley, as the result of Sir Charles' findings, has been convinced that *bathybius* is a myth.

Where now is your boasted "bathybius,"
  The promise and basis of life?
Since dredged up in quantities it shows us
  In *potency its* not very rife.

Though mud, Mr. Huxley, you may at us throw,
  We beg you remember at least,
Gypsum precipitate is a kind of dough
  That will not *rise* without some sort of yeast.

Spontaneous Hæckel, with all your wit,
  You are not up when you allege
Its true ex nihilo aliquid fit;
  Seek further than the deep-sea-dredge.

W.W.S.

WALLER AND DEWATTEVILLE ON THE ELECTROTONUS OF HUMAN NERVES.—The results obtained by these observers, after a long and patient investigation, are embodied in a memoir communicated to the Royal Society by Prof. Burdon Sanderson, and of which an abstract was read at the last meeting. Many experiments have been made in Germany during the last fifteen years, with a view to demonstrate on living human nerve the phenomena so well known since Pflüger's researches. Owing to imperfect methods however, the results had been as scanty as conflicting. Drs. Waller and DeWatteville have succeeded, however, in demonstrating most clearly that the same alterations of irritability which are observed in the exsected frog's nerve, both during and after the passage of a galvanic current, occur in the living nerve. Some of these alterations seem, indeed, to be far more marked in the latter than in the former; and the perfected methods they employed gave remarkably clear and uniform results. They tested the irritability of the polarised nerves, not only by means of galvanic and faradic stimuli, but mechanical stimuli, also a novel and important feature in their experiments. The consideration of the numerous sources of fallacy to which experiments on the human body are exposed led them to investigate a number of collateral phenomena of interest. Whether any immediate application of their results to electro-diagnosis and therapeutics is possible remains to be seen; but in the meanwhile, we are glad to observe that their memoir is the first contribution ever made in England to the cause of scientific electro-therapeutics.—*Med. Press and Circular.*

DANIEL WEBSTER once took a young lady to task for wearing short sleeves, and reflected severely on bare arms. "Why, Mr. Webster," exclaimed the young lady, "I'm astonished that you, the great expounder of the Constitution, should object to bare arms!" "What has my expounding the Constitution got to do with it?" growled Daniel; to which the young lady replied, "Does not the Constitution say that the right to *bear arms* shall not be interfered with?" History does not record the effect of this shot, but Webster died that same year.

NAPELLIN.—M. Labrode has discovered an alkaloid which he calls napellin in the mother liquor from which aconitin has been crystallised out. The alkaloid is amorphous and is soluble in water, ether, alcohol, and chloroform. It is less poisonous than aconitin, and has been used in doses of five to six centigrams with much benefit in cases of neuralgia.—*Le Progrès Médical.*—*Practitioner.*

IN the *North American Review* for April, Dr. Henry A. Martin, replying to a recent article by Henry Bergh, defends the practice of vaccination, citing official statistics to prove the efficacy of bovine virus as a prophylactic against the scourge of smallpox; a paper of extraordinary interest on the exploration of the ruined cities of Central America. The author, Mr. Charnay, has discovered certain monuments which conclusively prove the comparative recentness of those vast remains of a lost civilization. The *Review* is published at 30 Lafayette Place, New York, and is sold by booksellers and newsdealers generally.

Reports of Societies.

SOCIETY OF EX-INTERNES OF THE CINCINNATI HOSPITAL.

Dr. Chas. Kearns, of Covington, Ky., read the following paper at the meeting of March 7th, 1882.

Fracture of the Neck of the Femur.—Report of Cases Treated in the Old Way and by the Plaster-of-Paris Bandage.

In giving you this paper upon "Fractures of the Neck of the Femur" I can say nothing upon the subject as to cause, diagnosis, statistics, etc., with which you are not familiar, but, in order to discuss some points of special interest, will take up the subject as given by Hamilton, Holmes and others.

In the first place age plays an important part as a predisposing cause—in twenty-four cases observed by Hamilton the average age was about sixty years—the belief obtaining that with age comes a preponderance of earthy matter which makes the bone more brittle.

The experiments of Mr. Bransley Cooper, however, show that the quantity of earthy matter, instead of being increased in advancing years, is diminished. It is then chiefly to the change of nutrition, senile atrophy, with sometimes well marked fatty degeneration, that must be attributed the greater frequency of fracture of the neck of the femur at this period.

According to Holmes, too much stress has been laid on the altered direction of the neck of the fumur, which, it was claimed, became less oblique as age advanced till it formed a right angle with the shaft.

Mr. Canton (from Holmes) has shown that this is not correct, and the obliquity of the neck varies very slightly—the few cases in which it has become horizontal being altogether exceptional—the cortex however is thinner, the cancelli larger and frequently filled with oily fat.

The immediate cause of this fracture is frequently very slight, a common one is slipping off the curbstone; the sudden jerk breaks the neck of the bone and the patient falls to the ground, the fall being in this case a result of the fracture, and not the cause, from a fall upon the trochanter, upon the foot or knee.

Much has been said and written about the exact point of the fracture, whether extra- or intra-capsular. I am not ashamed to admit that in the number of cases I here report I have never fully determined whether any of them were extra- or intra-capsular and believe with Prof. Bigelow "the sooner the old classification *intra-* and *extra*-capsular fracture is abandoned the better it will be for science, for diagnosis and for treatment."

The table of differential diagnosis given by Hamilton and found in almost every work on fractures, given below, I have never found of any service to myself in obtaining the exact point of fracture.

Signs of fracture within the capsule.	*Signs of fracture without the capsule.*
Produced by slight violence.	Produced by greater violence.
A fall upon the foot or knee or a trip upon the carpet.	A fall upon the trochanter major.
Generally over fifty years of age.	Often under fifty years of age.
More frequent in females.	Relative frequency in males or females not established.
Pain, tenderness and swelling less and deeper.	Pain, swelling and tenderness greater and more superficial. It is especially painful to press upon and around the trochanter.
Shortening at first less than in extra-capsular fractures, often not any.	Shortening at first greater, almost always the same.
Shortening after a few days or weeks greater than in extra-capsular fractures; sometimes this takes place suddenly as when the limb is moved or the patient steps upon it.	Shortening after a few days or weeks less than intra-capsular fractures, that is, the amount of shortening changes but little if at all; if the impaction continues, not at all; if it does not continue it may shorten more.
Measuring from the top of the trochanter to the inner condyle or to malleolus internus the femur is not shortened.	Measuring from the top of the trochanter to the inner condyle or the malleolus internus the femur may be found a little shortened.
More mobility of limb at joint.	Less mobility.
Trochanter major moves upon a longer radius.	Trochanter major moves upon a shorter radius.

Causes of want of union, as given by Sir Astley Cooper and admitted by later writers, are:

First.—Want of apposition.

Second.—Want of pressure of one extremity of the broken neck upon the other, even though the limb preserves its length and the fractured parts are not much displaced.

Third.—The almost entire absence of nutrition in the head of the bone, its supply coming only from the ligamentum teres.

Fourth.—The natural change of the cervix in old age, the atrophy of its structures, which diminishes its power of resistance as well as its capacity for repair, together with the general want of constitutional vigor which accompanies old age.

Hamilton says "the head of the bone receives its supply chiefly through the neck and reflected capsule and when this is severed the amount furnished by the round ligament is found to be insufficient. When the fragments are displaced it is difficult if not impossible to replace them.

The direction of the fracture is generally such that the ends of the fragments do not properly support and sustain each other when they are in apposition. The fracture is at a point where the most powerful muscles in the body acting with great advantage tend to displace the broken ends.

Aged persons who are chiefly the subjects of this accident do not bear well the necessary confinement and especially as the union requires generally a longer time than the union of any other fracture."

Whether the absence of a provisional callus as a bond of union and the interposition of synovial fluid between the ends of the fragments constitute additional obstacles, he is not fully prepared to say, but states in the opinion of many surgeons these circumstances constitute a very serious if not the chief obstacle.

It remains now to consider what is the usual result of this fracture.

"A permanent shortening," says Hamilton, "with or without eversion of the limb are the invariable consequences of the accident."

Robert Smith says: "Our prognosis in cases of fractures of the neck of the femur must always be unfavorable. In many instances the injury soon proves fatal and in *all* the functions of the limb are forever impaired, no matter whether the fracture has taken place within or without the capsule, whether it has united by ligament or bone, *shortness of the limb and lameness are the inevitable results.*"

The treatment of this fracture given by Hamilton is, I believe, generally accepted by surgeons in this country, which is to use the straight splint, one for each leg, dispensing with a perineal band, he claims that the apparatus presses the fragments more firmly against each other and this operates to prevent their displacement in the direction of the axis of the shaft, overcoming the second reason of Sir Astley Cooper, why bony union does not take place, viz.: "Want of pressure of one extremity of the broken neck upon the other, even though the limb preserves its length and the fractured parts are consequently not much displaced."

Will this splint do what is claimed for it?

In Holmes' Surgery, page 941, he says, the indications are to bring the fragments into as accurate relation to each other as possible, and to keep them so during treatment which should extend over a period of three or four months. He says there are two ways of doing this: one by the straight splint, by which extension as well as fixation may be caused, and the other by a double inclined plane or fracture bedstead.

Caswell says the more common method in this country and we think the better is by weight and pulley.

Quoting Prof. Bigelow: "If to extend means to draw it down, impacted fracture and whatever resembles it, should never be extended but only steadied by weight or splint."

On the other hand (loose fracture) should first be drawn down to something like its normal length, or briefly, treatment consists in immobility with previous extension of a loose fracture; whichever of these methods may be adopted, it must not be forgotten that many old people bear confinement badly; under these circumstances it may be necessary to abandon all attempts at union and allow the patient to arise daily and ge about on crutches, as recommended by Sir Astle Cooper.

To sum up the general practice in this fracture immobility as nearly as possible without exten sion, straight splint, weights and pulley to stead or sand bags. In loose fractures extension an retention by straight splint, weights and pulley double inclined plane, etc. I have now give prognosis, always unfavorable; treatment, alway unsatisfactory; and will report cases treated afte these methods by myself.

Case 1. Mr. P., aged 70 years, very fat, bu healthy, tripped upon a fold of carpet, falling up on left side. Three days after the accident found him with limb shortened and everted, pai slight except upon motion; pronounced it fracture of the neck, but was unable to appl either long splints or weights, the family doubt ing my diagnosis. He was assisted to a reclinin chair daily, lived for several years but was unabl to walk. This was certainly a case of impacted fracture, and the transfer from the bed to the chair was effected with such care as not to disturb the impaction. His disability was as much a result of fear, want of confidence and obesity, as the injury.

Case 2. In March, 1877, Mrs. M., aged 84 years, in turning quickly fractured the neck of the femur, and was caught, before falling, in the arms of her son; evidently the fracture was from muscular contraction, previous to the accident her general health and ability to exercise was good for one of her age. I was called three days after the injury was received by her attending physician and found two inches shortening, great eversion and severe pain. Sand bags and the weights with pulley were tried, but the pain and increasing debility of the patient and our inability to extend the limb or correct the eversion forced us to abandon the treatment. Her health improved and she was finally able to occupy an easy chair the greater part of the day, but was unable to walk and died in August, five months after the date of the injury.

Case 3. In April, 1879, Mrs. M., aged 87 years, very feeble, unable to walk without guidance, was found on the floor of her room with fracture of the left femur through the neck; the usual signs, shortening, eversion and pain were present; her feeble condition prevented any attempt at treatment. She died in ten days after receiving the injury.

Case 4. In 1878, Mrs. B., aged 80 years, was thrown from a spring wagon breaking the neck of the right femur and the left arm, great shortening and eversion of limb. The treatment adopted was to keep her leg in a straight position by means of sand bags, her age and other injuries making the case unpromising. She, however, recovered sufficiently to sit in a chair, to be moved around, but was never able to take a step without assistance and last month, January 23d, 1882, she died, living three years in fair health.

Case 5. Mrs. M., aged 68 years, slipped from door step breaking the neck of the left femur, in 1879. The usual signs, shortening with eversion of limb, were present. Straight splints were used and as much immobility as usual resulted from apparatus. In four months she was able to use crutches and in one year from the accident she died.

In the five cases given above with the ordinary treatment, I think I have had the usual results, according to Hamilton and Robert Smith: "Permanent shortening with or without eversion." "In *all* cases the functions of the limb are *forever destroyed*."

Case 6. Mrs. W. On January 20th, 1879, I was called in consultation to see Mrs. W., Dayton, Ky., aged 73 years, and found a fracture of the neck of the femur of right leg, resulting from a fall, a slip upon the ice. There was no evidence of injury to trochanter, no bruising, and my belief was a fracture from muscular contraction, the leg was shortened three inches and completely everted, great pain resulting from spasmodic contraction of the muscles. The weight with pulley was applied, assisted by sand bags to the side of limb to support it, with no result, the contraction of the muscles overcoming more weight than she could bear.

Dr. Dawson had mentioned to me some time before his application of *plaster paris* to a similar case. Never having seen it applied in this injury, I nevertheless determined to try it. Placing long towels under her back, shoulders, and uninjured limb, I held her up from the bed, a perineal band used for counter extension and the limb firmly drawn down and held inverted by an assistant. I now commenced with my plaster of paris,—prepared in the usual way,—by making them firm around the hips, from trochanter to trochanter, interposing between them and the skin two or three layers of sheet wadding, with the leg fully extended. In this mannerI I claim to have pressed the fragments tightly together, and to have used an appliance that would keep them together, thereby meeting the indications of Holmes: "To bring the fragments into as accurate relation to each other as possible and to keep them there." After passing this bandage a number of times around the hips, I would pass it around the leg, making a figure of eight bandage, by again passing around the hips, and at last continuing down the leg to the foot; this bandage remained on Mrs. W. for eight weeks, keeping up the length of limb, correcting eversion, and controlling the pain, or more properly speaking, with the adjustment of the fragments and their retention, the pain ceased. Twelve months after the injury, I saw her walking without a crutch or perceptible lameness, saw her stoop and open the lower drawer of a dressing case without hesitation or pain.

The extent of shortening and eversion, if any, I am unable to determine as she has been absent from home more than a month.

Case 7. In September 1879, Mr. F. aged 42 years suffering from delirium tremens jumped from a window falling 12 feet to a flat-stone platform, striking upon left trochanter fracturing neck of femur as evidenced by three inches shortening, great eversion and crepitation. The leg was extended, eversion corrected and the bandage of plaster of paris applied as above described. I have not been able to examine his limb since he left the hospital, but learned from his brother this March 6th that there was no appearance of shortening in his walk, no impairment of the limb that he could discover, he walked up and down stairs with ease, but in going a distance from home always carried his crutches to rest upon.

Case 8. John A. aged 45 years, laborer, entered the hospital on the 14th of March, 1881, having received injuries from a bank of earth falling upon him, an examination revealed an injury to shoulder, cuts upon the head and fracture of the neck of the left femur two and one-half inches shortening, eversion and great contusion of hip, applied plaster dressing and discharged him September 13th, 1881. He was lame but could walk pretty well, using neither crutches or a stick. Leaving the hospital during my absence I failed to get the length of his limb.

Case 9. Mrs. U., aged 92, fractured her left femur through the neck, June 1st, 1881, in stepping from a carriage, was very feeble but insisted that her leg should be set. Applied the plaster bandage more to gratify her than with any expectation of relief; she died sixteen days after the accident.

Case 10. Mrs. S., aged 80 years in making a misstep from a doorstep fractured the neck of left femur, July 28th, 1881. Nine weeks after the accident I was called and found the limb three inches short and very much everted; she had been treated during that time with weights and pulley and sand bags, and, in fact, had the weights upon the limb when I measured it. I found upon exploration that I could extend and invert it; she was perfectly helpless and required anodynes constantly to control the pain, I doubted very much whether the plaster dressing would do any more than keep the leg quiet, I made the application however, freed her from pain, not another dose of morphia being required, and two months afterwards removed it.

On the 28th of February, 1882, I examined the the limb, and found it shortened one inch, eversion slight, able to walk with crutches, and improving in motion very rapidly.

Case 11. On the 21st of September, 1881, Mrs. S. aged 76 years, fractured the neck of right femur, in getting from her couch and fell upon the floor. She was very fat, asthmatic, and had incontinence of urine, her condition was such when I saw her that I defered treatment believing that she would die. Her limb was shortened one inch and inverted. I obtained a fracture-bed, and on the 1st of December, she having rallied from the shock. I applied the plaster of paris bandage, controlling completely the spasmodic contraction of the muscles and the pain; removed it in six weeks, and on the 1st of March 1882 measured her limb and found not more than a third of an inch shortening, and had the old lady walk across the room, doing it without any assistance, and doing almost as well as she had done in the last four years.

Case 12. Mrs. A., aged 76 years, very much enfeebled by an attack of malarial fever, during convalescence fell from her chair, February 20th, 1882, fracturing the neck of left femur, an examination revealed what is described as an extra-capsular impacted fracture, with one and a half inches shortening, eversion and fixation, absence of crepitation and inability to extend to proper length; applied the plaster bandage correcting the eversion and controlling pain. One month after accident death ensued from age, and debility, resulting from malarial attack, evidently hastened by fracture. Post mortem allowed, showing a complete separation of neck, fracture extending within attachment of capsule, trochanter separated into three fragments. Some callous thrown out and general appearance of parts good.

In reporting the first five cases, I claim to have had about average cases with average results. I can call to mind several other cases in the hands of other surgeons, with a similar result. One particularly, a man 45 years of age, with permanent disability, from shortening and eversion. Now in reference to the seven cases treated with plaster of paris bandages; Mrs. W's., was a typical case and the results are unprecedented.

The average of cases treated with plaster of paris being 70 years, is I admit, better than the average of my patients treated in the old way, it being a fraction less than 78 years.

I claim and believe that the cause of non-union is from an inability to keep the fragments in apposition, and not from a deficient supply of blood to the upper fragment and reflected capsule.

I further claim that this bandage meets every indication required in the treatment of this fracture, the fragments are firmly held in apposition, which lessens the amount of extension required. Muscular action is controlled by uniform pressure, and immobility of the parts ensured.

RUTLAND COUNTY MEDICAL AND SURGICAL SOCIETY.

Dr. John M. Currier, at the semi-annual meeting of the above society, held at Rutland, Vermont, January 11, 1882, read an extract of the paper entitled:

Some Observations on the Physiology, Pathology, and Treatment of the Diseases of the Pelvic Organs.

1. In addition to the various ligaments, the uterus and its appendages are held in position by atmospheric pressure; the structure of the chest and abdomen operating as a suction pump to draw the contents of the pelvis upwards.

2. The uterus tends to occupy, relatively, a higher position in the erect than in the recumbent posture. If a female is requested to raise a heavy weight, the uterus will be found to ascend at the same time the weight is raised. By the same force gas in the intestinal canal seeks a lodgment in the rectum, which would otherwise remain in the higher portions of the colon. Also fæces in the rectum can be more easily retained while in the erect posture, by the same force; hence if one wishes to avoid immediate defecation, one assumes the erect posture, and by expanding the chest and drawing the abdominal organs upwards, is enabled to postpone defecation.

3. This suction force causes absorption of the liquid portion of the fæces in the rectum; and drains the capillaries of the uterine organs, particularly the defending of the uterus. In the recumbent posture the circulation of the pelvic organs become more sluggish.

4. Incomplete expansion of the thoracic cavity; abdominal breathing; and increased fullness of the abdominal cavity; tend to produce sinking down of the uterus (with various malpositions) and other organs of the pelvis, from dimished suction upwards.

5. The following symptoms result; a bearing down sensation which is increased by straining at stool, or to micturate; desire to micturate frequently; leucorrhœa; and congestion and ulceration of the neck of the uterus.

6. Falling of the womb; ulceration and passive inflammation of the uterine neck; should not be treated by placing the patient in a recumbent posture. Free motions of the chest must be allowed. The clothes should be so loose that the lungs can be inflated to their fullest capacity without the least binding. No binding of the abdomen should exist.

7. The patient should be required to take exercise by walking every day till the muscles of limbs become tired. Riding in a carriage should be strenuously prohibited.

8. Only soothing and mildly antiseptic injections should be allowed about the neck. No pessaries or supporters needed.

Correspondence.

DISCOVERY IN VACCINATION.

Editors Lancet and Clinic:

I apprise you of a discovery in vaccination, at least it is new to me. I believe it is the established theory with the profession that it necessitates a sore or scab to give immunity from variola. This may not be the case after a more favorable consideration. I vaccinated myself with some bovine virus furnished me by Dr. Griffin, of Fond du Lac, Wis. About ten days after vaccination a warm feeling came over my arm, an increase of temperature with a sensation in my arm as though it had received a slight shock of electricity which remained several days. I experienced no other inconvenience in my case and there was no sore formed on my arm. This led me to look after my patients who had no sore from vaccination. I was surprised to find the most of them had considerable constitutional disturbance; they had the symptoms that a patient has who has a sore formed, and with children a rash appeared resembling varicelli.

I hope you will give this your kind consideration, as I am of the firm opinion that if a person has no sore formed but goes through the symptoms due to vaccination, and there is no sore or scab to show for it, the symptoms ought to be evidence as in other diseases. Therefore we ought to inquire after symptoms as well as for a sore, scab or a scar. Yours respectfully,

Moses M. Gordon, M.D.

Francisville, Ind., March 14, 1882.

Selections.

MEDICINE.

ON THE INCREASE OF BACTERIA IN THE BLOOD OF LIVING ANIMALS, AFTER INTRODUCTION OF A CHEMICAL FERMENT FREE OF ORGANISMS.—J. Rossbach communicates to the *Centralblatt f. d. Med. Wissenschaften*, Feb. 4th, 1882, the following statement:

It is now established that low organisms occur in the blood, and the organism generally, of healthy living animals. But the healthy body does not seem to be a favorable nidus for them, or to offer suitable conditions of nutrition and life, as they are found in very small numbers, or can be demonstrated only by proper surroundings in parts removed from the body and preserved in paraffin.

If a drop of blood be taken from the heart, or an artery of a healthy rabbit, and, placed under a cover glass, be examined with the minutest care, one may never recognize in it bacteria with any certainty. True, we may see here and there some granules, which might be interpreted as bacteria, but they are always immobile, and might as well be relics of destroyed blood corpuscles. They are so very rare, anyhow, as to have no significance for the healthy organism.

When we do find bacteria in great numbers in the blood or any tissues in diseases of various kinds, it has been always believed that they have immigrated from without, and have developed and multiplied within the body. Thus, it is believed, they induce the various symptoms of diseases, or even cause death; either by reason of their indescribable numbers or by reason of poisonous products which they give off.

This view seems so well established by experiment and observations, and is so rational and plausible, that it is accepted almost universally, and has at present but very few doubters.

So much the more was I astounded at the results of some experiments, undertaken for an entirely different purpose, which seemed to shed a new light upon the subject of infection, and the increase of these lowest organisms in the bodies of the higher animals. In order to learn the different effects of Papayotin, I had my assistants, Drs. Aschenbraadt and Leussler, inject it into the circulation of rabbits, partly through the jugularis and partly through the veins of the feet. The animals died in one to two hours; and in the blood taken immediately from the heart there was found an immense number of micrococci. In order to make control experiments, I now first examined the blood of a number of rabbits and established the entire absence of the lowest mobile organisms.

Immediately after the withdrawal of the blood small quantities of papayotin (0 05—0 1 grm.) in freshly prepared solution were injected into a vein. During the death struggle, which soon supervened (death occurs from paralysis of the heart, respiration continuing some time longer), blood was again withdrawn from the heart, and always, without exception, there were found, even if death occurred, in only fifty minutes after the injection, in every drop of the blood, freshly withdrawn from the heart, an immense number of spherical and biscuit-shaped bacteria, which moved themselves very actively, were intensely colored by aniline dyes, and conducted themselves, without doubt, as veritable bacteria.

We have thus indubitable evidence of the fact that the introduction of an unorganized, chemical substance, of vegetable nature, and totally free from organisms introduced into the blood of an healthy organism, so alters the condition of the juices of the body, that the few bacteria in it, in its normal condition, become at once actively vitalized, and capable of reproduction in wonderful numbers; of the fact that with the absolute exclusion of any infection, it was necessary to introduce only a small quantity of a chemical poison to multiply the preëxisting harmless organisms to great numbers in less time than happens in real infectious disease.

This fact substantiates the opinion that in the real infections, besides the inoculated organic germs, the chemical poisons or ferments combined with them, are not without significance. But further experiments are necessary to elucidate this problem.

In the mean time I may state that Rosenberg in my institute here has made some experiments with septic poisons, which consist in boiling absolutely free of bacteria, and then introducing them into the body; and he has observed the same result after his poisons, of swift multiplication of body and blood bacteria, as I have after papayotin. J.T.W.

PILOCARPIN IN TREATMENT OF DIPHTHERIA.—Instigated by the panegyrics pronounced by the gentleman, who recommended pilocarpin on account of its specific action in diphtheria, as also by the favorable testimony furnished by other physicians as to its usefulness. Laschkewitz determined to test its efficacy in the Charkow Diphtheria Hospital. The patients remained under constant medical surveillance, and the Pilocarpin was administered strictly according to the directions of Guttman. From the 10 histories presented, we learn that Pilocarpin was ordered during the first three days of the disease, and in cases in which the temperature varied from 103° to 106°, the patients being from two to seven years of age, and in no case was relief experienced. Truly, the remedy was employed exclusively in severe cases, but these alone demand a specific remedy, for the slighter attacks terminate favorably under different treatment also. Laschkewitz closes his report as follows: It is probable that some of my colleagues obtain happier results by using pilocarpin in dyphtheria; the history of these cases furnishes us a positive and irrefutable proof against any specification whatever, of pilocarpin in dpihtheria.—Prof. Laschkewitz, *Deutche Med. Zeit.* G.A.F.

TANNATE OF PELLETIERIN AS A REMEDY AGAINST TAPE WORM.—Among the anthelmintics hitherto employed, none seems to produce so certain an effect as that, which has been lately prepared from the cortex radicis granatorum, and which has been named by its discoverer, Mr. Tanret of Troyes, Pelletierin. Several salts of this alkaloid have already been produced. The sulphate, which was at first employed by the discoverer, frequently disappointed him, when employed in 0,5 doses. Hence, either the dose of sulphate was increased or the tannate was administered by preference, since the former is hygroscopic and more expensive, but does not differ in its action from the latter. The tannate is a greyish-white powder, which is almost insoluble in water.

Pelletierin being very highly recommended by the French physicians, I tested its qualifications in six cases. Of these, three suffered from Bothriocephalus latus, two with tænia, and the sixth, although he was not able to show any section of tapeworm, determined to subject himself to the same treatment, being under the impression that he had tænia. The patients harbored these parasites for some length of time, varying from 1½ to 8 years, and had used the various remedies to effect expulsion, always with the same result, viz.; the head remaining. After the usual preparatory treatment, tannate of pelletierin was administered in a dose of 1,5, and 2—3 hours thereafter, Ol. Ricini 15,0. The result in the five cases, first named, was a brilliant one; in every case the worm was expelled entirely, coiled up in the form of a ball.

In the sixth no effect whatever was produced, probably on account of the absence of any parasite. In no case was any disagreeable symptom experienced, except in the individual, without the tapeworm, who was attacked with a transient sensation as if he had swallowed opium, this feeling disappearing after an hour. The alimentary tract was not disturbed, no subsequent dietetic measures being necessary.

I hope, that by the above statements, I may give an impetus to future investigations, and I shall warmly recommend the remedy which. on account of its entire want of taste, can be easily administered.—Dr. H. Witt, *St. Petersburger Med. Woch.*

G. A. F.

ERGOTINE IN PHARYNGITIS.—*Ld Revue Mens. de Laryngol.* points out a therapeutic method which is capable of giving good results in chronic pharyngitis with exaggerated development of the veins of the pharynx and muco-purulent secretion. The following lotion should be profusely applied, twice a day, over the pharynx by means of a camel's-hair pencil: Ergotine, 15 grains; tincture of iodine, 1 drachm; glycerine, 1 ounce. —*London Medical Review.*

EFFECTS OF DRUGS ON THE SECRETION OF MILK.—Dr. Max Stumpf draws the following conclusions from an elaborate experimental study of the actions of drugs on the mammary secretions:

1. Iodide of potassium produces a decided reduction in the quantity of milk secreted.
2. Morphia, alcohol, and lead do not affect the quantity or quality of milk.
3. Salicylic acid appears to increase somewhat the secretion of milk in quantity and in the proportion of sugar.
4. Pilocarpine does not increase milk formation.
5. Iodide of potassium causes an alteration in the functional activity of the gland, and, consequently, a modification in the composition of the milk.
6. Alcohol and alcoholic drinks increase only the relative amount of fat in the milk, and can, therefore, not be used as a dietetic means of stimulating the gland.
7. Iodine rapidly appears in the milk, and disappears in the woman immediately after stopping the drug; in the herbivora it lasts some time after the cessation of administration of iodine. The quantity of iodine in the milk follows no definite proportion to the amount of the drug administered, but appears to vary according to individual peculiarities; "iodized" milk, therefore, cannot be used as a therapeutic means. Iodine does not exist in the milk as iodide of potassium in solution, but is united with the caseine.
8. Alcohol does not pass into the milk in the herbivora.
9. Lead passes in traces when small doses are administered, and persists after the stopping of the drug.
10. Salicylic acid, when given in large doses, can be found in small quantities in the milk, in somewhat larger amounts, however, in woman than in the herbivora.—*Deutche Archiv f. Klin. Med.*, Jan. 18, 1882.

TRAUMATIC TETANUS TREATED WITH ESERINE.—Dr. Thomas Layton reports a case of tetanus occurring in a boy, aged eleven years, following, after an interval of three weeks, the wounding of the sole of the foot with a splinter. Chloral, bromide of potassium, and cannabis indica were employed without benefit. Eserine was then administered in doses of $\frac{1}{64}$ grain every hour. Recovery took place. Dr. Layton calls attention to the following points:

1. The child took a *full adult dose* of the sulphate of eserine every hour for several days, and not only were there at no time symptoms of poisoning, but the beneficial action of the remedy was apparently manifest.
2. There was never the least *contradiction* of the pupils—on two occasions, as mentioned in the observation, the pupils were *dilated*, at all other times they responded to light in a normal manner.
3. It was not noticed that the sulphate of eserine increased either the secretion of tears and saliva, or defecation; with regard to the last, an occasional purgative had to be employed during the progress of the case.—*New Orleans, Med. Jour.*

THE TRANSFORMATION OF TUBERCLE. — A study of the minute structure of the new formations produced by the inoculation of non-tuberculous material has shown, in some investigations of M. Hippolyte Martin, as in those of some preceding experimenters, that it may present all the histological characters of true or infectious tubercle. He maintains, however, that a criterion between the two, the infecting tubercle and the non-infecting or pseudo-tubercle, is furnished by the results of a *series* of inoculations. Tubercle taken from an animal suffering from the true variety, inoculated into a second animal, causes in the latter a generalized tuberculosis, transmissible to a third, and from this to a fourth. He is in possession of a guinea-pig which is the seventh in such a series. The pseudo-tubercle, on the contrary, never gives rise to a generalized affection, and a series of successive inoculations shows that the infecting property is lost at the second, or at most at the third, term of the series. These results indicate that there exists in the infecting tubercle an agent to which the infection is due, and which may be reproduced indefinitely in a series of living organisms. The inoculated animal is comparable to a cultivation-liquid, in which the agent lives and develops, just as do the bacteridia of anthrax in an appropriate liquid, or in the blood of an inoculated animal. Thus the tuberculosis is strictly comparable to a parasitic disease. Further, more recent experiments by M. Martin render the analogy still closer. Infecting tubercle, coming from an animal or human subject (fragments of a tuberculous lung, liver, spleen, or lymphatic gland), is introduced into the peritoneal cavity of a guinea-pig, as a control animal. Similar fragments are sealed in tubes, and exposed to a temperature varying from 60° to 180° C., and are then introduced into the peritoneal cavity of other guinea pigs. It was found that the tubercle sometimes loses its infecting properties at a temperature of 100° C. A guinea-pig, for instance, inoculated into the peritoneal cavity of other guinea-pigs. It was found that the tubercle sometimes loses its infecting properties at a temperature of 100° C. A guinea-pig, for instance, inoculated with such tubercle continued in perfect health at the end of five months. Sometimes, however, this temperature does not render the material inoffensive, but it becomes completely so at a temperature of from 120° to 140° C.; the latter, and *à fortiori* higher temperature, always securing immunity for the subjects of inoculation. But when the tubercle was exposed to a lower temperature than 100° C., a very unexpected result was obtained. Three guinea-pigs inoculated with tissue which had been heated to between 60° and 85° died in a few hours with acute lesions of great intensity, such as purulent peritonitis and extensive gangrene of the liver and spleen, although the strictest precautions were adopted to prevent the introduction of accidental germs. It appears thus that, under these circumstances, an active principle is developed of great intensity, which kills the animal before the tubercular virus has time to produce its own special effects. Not less remarkable were the results obtained by tubercle which had been immersed in alcohol. Exposure for some hours to this agent was found in one case to render the tubercle perfectly inert. A guinea-pig thus inoculated remains perfectly well at the end of seven months. But another inoculated with material which had been exposed to alcohol for three days, became tuberculous at the end of five months, an interval which shows that the infective power of the tubercle was greatly lessened. A fragment of its lung was inoculated into another guinea-pig, which died with general miliary tuberculosis fifty-seven days later, thus showing that the original almost inert tubercle had become comparatively virulent in its development in the body of the first. A third animal inoculated from the first is still alive, but presents distinct signs of tubercle. Hence it appears that even a maceration of several days in alcohol does not entirely deprive tubercle of its infective power. But such immersion is fatal to the vitality of organic cells, and only a parasitic organism is capable of surviving such an influence. Hence M. Martin concludes that the more tubercle is studied the closer becomes its analogies with a parasitic disease. It will not, however, be logically proved to be such until the organism has been isolated, separately cultivated, and then found to be efficient in the production of an infectious tuberculosis — a demonstration which, M. Martin believes, is only an affair of time and method.

Much more investigation, however, is necessary before the alleged criterion of serial inoculation can be accepted as conclusive. It has been established beyond question, especially by the well known researches of Wilson Fox, that guinea-pigs may be rendered tuberculous by the inoculation of completely inert substances, such as cotton thread, and the generalized lesions thus produced are absolutely identical in naked-eye and microscopical characters with true tubercle. The absorption of the products of simple inflammation thus excited is as effective as that of a true tubercular virus. That which results from the presence of a cotton thread may certainly follow the inoculation of organic material which has been steeped in alcohol, without being in itself evidence of the presence in the latter of any special *materies morbi*, parasitic or other.—*London Lancet.*

FÉRÉ AND DEMARS ON MÉNIERE'S DISEASE AND ITS TREATMENT.—Féré and Demars (*Revue de Médicine*, Oct., 1881), describe the symptoms, and give the details of several cases of Méniere's disease with particular reference to the influence of quinine on them, according to the method suggested by Charcot.

When a patient with Méniere's disease is treated with sulphate of quinine in doses of from 60–80 centigrammes (10–12 grains) the cinchonic sounds in the ears are added to the subjective sounds of the disease, and the patient's symptoms are rather increased. But if the quinine is omitted for eight or ten days, the sounds and the vertigo diminish notably. If the quinine is readministered for a similar period of from eight to ten days, there is a new exasperation of the symptoms, but of less intensity than at first. At the second cessation there is very considerable amelioration, and this may go on to complete cessation of the vertiginous attacks.—*Brain.*

THE CAUSE OF PELLAGRA.—The etiology of pellagra is one of the most obscure points concerning that disease. It has been attributed to a great variety of causes—distress of mind, poverty, abuse of salted provisions, impure water, the use of rye-bread, etc. A more satisfactory theory was first ennunciated by Thouvenal as far back as 1798, and supported at a later period by Roussel and Costallet in France, and by Balardina in Italy. This theory attributes pellagra to the exclusive use of maize or Indian corn for food, especially where damaged samples of that cereal are consumed. Researches recently undertaken by M. Lambrose, and reported to the *Revue Scientifique*, January 28th 1882, seem to demonstrate to a certain extent the truth of Roussel's theory. According to Lambroso, pellagra is undoubtedly developed under the influence of a diet of damaged maize, only the poisonous agent is not, as was formerly believed, the fungus found on the altered grain, but a special extractive substance obtained by a process analogous to the preparation of ergotine, which it also resembles in some physical characteristics. M. Lambrosa name it pellagrozeine. In experiments undertaken by that gentleman, the daily consumption of six grammes of tincture of damaged maize produced in twelve workmen feelings of intense hunger, associated with dislike to food, diarrhœa, and enteralgia; there afterwards appeared the most characteristic cutaneous lesions of pellagra, pruritus, stinging pains, ephelides, burning sensations, followed by nervous symptoms mydriasis, ptosis, sleepiness, and pleasure in seeing and touching water, as well as headache, and earache and giddiness; other symptoms were sometimes observed, such as palpitations, acceleration or slowing of the pulse, and fainting fits. Grisolle states that a large number of sufferers from pellagra commit suicide, they do not kill themselves in a fit of maniacal excitement, but quietly as though impelled by a purely automatic impulse. Stambio has noted that the majority of these suicides destroy their life by drowning. In the workmen subjected to a diet of damaged maize, there was also an increase of the specific gravity, and a decrease in the amount of the urine, which has a red tinge. It may be noted that these symptoms have the greatest analogy with those of incipient pellagra. These experiments, repeated on various kinds of animals, yield important pracical results, both as regards prevention and treatment of pellagra. For the prophylaxis, M. Lambroso recommends various modifications of the cultivation and storage of maize, and of its manufacture into bread. As to treatment, a prolonged series of experiments has demonstrated to him that there is no specific remedy and no special therapeutic treatment for pellagra. It is not the disease which must be treated, but the patients. He has seen good results follow the administration of opium in cases of pellagra complicated by mental fear or stupor. Quinine is valuable where there is prostration; and calomel, arnica, and cold douches in cases of pellagrous diarrhœa. He has obtained cure in desperate cases by varying doses of from one-fourth to two-thirds of a miligramme *per diem* of arsenious acid. In infantine pellagra and in the kind accompanied by an arrest of development, he has had occasion to be satisfied with the use of frictions of chloride of sodium. Pellagrous vertigo has frequently yielded to the administration of cocculus orientalis. Medication by chloride of sodium and arsenic has been tried on a somewhat large scale in the localities where pellagra is endemic, and the successful results have been sufficiently numerous and rapid to give reason to hope that it is possible to cure pellagrous patients without attempting the difficult task of changing their usual form of diet.—*British Medical Journal.*

AN IMPROVED PLAN OF USING CHRYSOPHANIC ACID EXTERNALLY.—It must be admitted by all that no recent addition to dermatological therapeutics can compare in value with chrysophanic acid. External applications of this remedy remove with surprising rapidity the most inveterate eruption of psoriasis, and prove of value in other cutaneous affections but its action is difficult to control. As we all know who have had experience in its use, it is very liable to produce a severe and unexpected dermatitis, and almost certain to ruin the underclothing and bed-linen of the patient. These objectionable features I have endeavored to obviate by adopting the following method of applying the remedy: A soft paste is made by rubbing the chrysophanic acid with a sufficient quantity of water and smeared upon the psoriatic patches, the scales of which had been previously removed, by one or more hot baths with soap friction. As soon as the paste has dried, which it does in one or two minutes, a layer of collodion should be allowed to flow over each patch and to harden into a protective coating. This will remain in place for several days or longer, according to the location of the patches, and when it falls or is washed off, the application of the powder and the collodion should be repeated. By this procedure the chrysophanic acid in full strength is kept in contact with the affected skin, and prevented from exciting undue inflammation of surrounding parts or staining the clothes. A mixture of the powder and the collodion may be used, but it is less efficacious. A film of the collodion doubtless interferes with the action of the acid upon the skin. A somewhat similar plan which I have tried consists in the use of gutta-percha tissue to retain a strong chrysophanic ointment in contact with psoriatic patches. The edges of this tissue will adhere tightly to the skin if a small camel's-hair brush, dipped in chroroform, is passed rapidly beneath them.—George Henry Fox M. D., in *Medical News*.

PHENOMENA OF CONVULSION.—Menier, in an interesting analysis of this subject, considers in succession each of the ten factors by which these phenomena are constituted. In regard to the first factor (*a*), *quality*, a convulsion may be either clonic or tonic. The *origin* (*b*) of a convulsion may be either peripheral or central. But, if we regard the different muscular groups in the body as forming various series, the first member of which is found in the larger muscles with simple functions, and the last member in the smaller muscles having a complex function, the origin of a convulsion will always be seen to occur either in the first or the last member of such a series. The *march* (*c*) of a convulsion obeys the following law: first, the muscles first involved become more severely affected; second, the spasm affects additional muscles of the same order (in the above described series) as those first affected; third, the muscles of the next succeeding order are affected. Or a convulsion may spread by affecting successively different combinations of muscles of the same order without extending to those of the next. As to the *attitude* (*d*) produced, this is dependent upon the three preceding factors, according to the following scheme: All tonic convulsions are bilateral, and produce an attitude of extension: and the same is true of all convulsions which originate in the central muscles and spread toward the extremities; while all clonic, centripetal convulsions begin unilaterally and produce an attitude of flexion. The *extent* (*e*) of a convulsion is measured rather by the number of different orders of muscles involved than by the area of the body which is affected. The *rapidity* (*f*) varies much, but in general it is true that "the coarser the structural alteration [causing the convulsion] the more deliberate the march." Great rapidity of march is probably due to a permanent instability of the gray substance of the nervous centers. and hence it is that in repeated convulsions, each of which tends to increase the state of nervous instability, the later attacks spread more rapidly than the earlier ones. By the *pitch* (*g*) of a convulsion the author means the degree of rapidity with which the simple muscular contractions which constitutute a single spasm succeed each other. It is high at the beginning of a convulsion, and declines toward the end. The remaining phenomena of a convulsive act are the *intensity* (*h*), which regards the strength of one of the simple muscular contractions; the *force* (*i*), which represents the strength of a single spasm made up of several such contractions occurring in rapid succession, and (*j*) the *duration*.

THE PROBABILITY OF DISTINGUISHING HUMAN BLOOD FROM THAT OF OTHER MAMMALS.—From a careful study of the comparative sizes of the blood-cells of different animals, and their behavior with different reagents, M. Vibert believes that it is impossible to say positively that a spot is formed by human blood; probability only can be ventured on. Occasionally it may be stated that the blood is from other than man, but only when the blood making the spot is from an animal having much smaller cells than man.—*Journ. de Med. de Paris.*

TUBERCLE.—Extract from a lecture in the course on Pathological Anatomy at the Middlesex Hospital Medical School, January, 1882. By Sidney Coupland, M. D., F. R. C. P., Physician to and Lecturer on Pathological Anatomy at the Middlesex Hospital.

Gentlemen.—Having, in my last lecture, given you as explicit an account of the general pathology of tubercle as far as I understand it, I propose to-day, before leaving this subject, to recapitulate to you these facts in the form of a concise summary. In doing so, you must allow me to adopt a somewhat aphoristic and dogmatic method; for I feel that upon this subject, of all in pathology, it is necessary for us to have clear and definite ideas. There is hardly any pathological question that has been so swayed by every wind of doctrine as this of tubercle; not even the subject of inflammation has been viewed from so many standpoints, and received so many and varied explanations. The conclusions I am about to give you do not claim to be anything else than the formulated expression of ideas gathered from time to time from various sources. They embody simply the essential points I have learned from others, confirmed, so far as opportunities have been given me, by my own *post mortem* experience. Therefore, they are in no way original or novel. I hope they may be nearer the truth in consequence; as near, that is, as our present knowledge allows us to go. My sole aim is to teach you the facts which are established, and the inferences that appear to flow from them, in the simplest and plainest manner:

1. Tuberculosis is an infective disease to which man and the higher animals are liable.

2. It is characterized anatomically by the formation of minute nodules or "granulations," composed of elements like those met with in granulated-tissues, the result of simple reparative inflammation.

3. These nodules, or elementary, or primary "tubercles," may occur in an isolated manner, or, by their confluence, may form larger or smaller conglomerate masses.

4. The typical structure of each fully formed primary nodule consists in (*a*) a collection of lymphoid round cells, enclosed in a delicate fibrillar meshwork or stroma; (*b*) in an internal zone, more or less evident, of larger nucleated epithelioid cells; and (*c*) a central multinucleated or giant cell.

5. These "tubercles" arise apparently in connection with the lymphatic tissue that prevades the body. No region is exempt from them. They may occur in the substance of organs, in the bones and muscles, in serous membranes, as the pia-arrachnoid, pleura, pericardium, and peritoneum; in synovial membranes; in mucous membranes (arising in the submucous stratum), as in the mouth, pharynx, larynx, trachea, bronchi, intestines, and genito-urinary tract.

6. Being ill supplied with blood-vessels, they can only attain a certain size, and then perish. The central cells degenerate first, because they are the farthest removed from the nutrient blood-stream, and mutual pressure due to their increasing growth hampers their vital activity. They become fattily degenerated, soft, opaque, caseous, forming "yellow" tubercles, which when isolated; are larger and manifestly of older formation than the miliary translucent grey granules. Where such tubercles are confluent, larger and more irregular caseous masses are formed. Caseation may pass into certification. On the other hand, there is no doubt that occasionally the tubercular nodules take on a fibroid change, passing from the stage of "granulation tissue" to one resembling "cicatricial tissue."

7. Almost invarably there occurs, in the vicinity of the tubercular formation, some reactive inflammation. This may be protective by ultimately leading to encapsulation by fibrous tissue of the caseated tubercular focus; or, as more frequently happens, it aids in the disintegration of the surrounding tissues, and leads, with the ne-

crosis of tubercles themselves, to destructive ulceration.

8. Individuals who are prone to the development of tubercle are called "tubercular." The disposition may be inherited. Probably what we recognize as "struma" or "scrofula" is only one form of this: a tendency to tuberculosis of lymphatic glands especially; just as in phthisical subjects we have a tendency to pulmonary tuberculosis.

9. The tubercular manifestation is, in the majority of cases, at first local, *i. e.*, limited to one organ or tissue. It may remain so limited throughout life—may not even endanger life—or may lead to death by the local destruction to which it gives rise. On the other hand, it may be more or less widely diffused throughout the body of the same individual. This development may be due sometimes to the simultaneous development of tuberculosis in many parts. More frequently, it is due to secondary dissemination, by a process of infection.

10. The dissemination takes place, as in cancer, in two ways: viz ,by direct extension, or infection of neighboring tissues by contiguity; and by general distribution of the tubercular virus through the medium of blood-system (including lymphatics).

11. The tubercular virus seems to be most potent, or, at any rate, to retain its potency, *i. e.*, its infective property, in the caseous state.

12. Examples of the local extension of tubercle, or of propagation by contiguous infection are seen: (1) in the development of peritoneal tubercle from intestinal[1]; (2) in the spreading of tubercle from one part of an organ (*e. g.*,lung) to another part; (3) in extension from lung to pleura[1]; (4) in bronchial, laryngeal, and intestinal ulceration excited by the passage over their mucous membrane of material expectorated from a phthisical lung; (5) in tuberculosis of bladder and vesiculæ seminales following upon renal or testicular tubercle, etc. The mode of its local extension approximates tubercle to the neoplasmata, viz., by its elements exciting in the tissue they infect changes leading to the formation of cell-masses resembling the primary focus.

13. The generalization of tubercle is shown in the disease known as acute miliary tuberculosis, which is characterized by an eruption of miliary granulations in diverse organs and tissues. Its mode of occurrence may be (as above) compared to the general dissemination of secondary cancer, or, perhaps with equal truth, to the metastatic suppuration of pyæmia. With few exceptions, it appears to necessitate a primary tubercular focus to give rise to it. It is believed that the infective virus, whatever it be, enters the blood-stream at this local focus, and is thence widely disseminated, the resulting growths being for the most part miliary, grey. and translucent; life not, as a rule, being prolonged for a sufficient length of time after the occurrence of the generalization to permit of the growths becoming confluent or caseous. As the membranes of the brain are generally involved in this widespread infection, death occurs early.

14. Lastly, tuberculosis is inoculable. In this respect, it resembles pyæmia, and differs from the cancers; for there is reason to think that it may be and is communicated from one human being to another, *e. g.*, from husband to wife, and *vice versa;* and that it can be inoculated in animals from (artificial tubercle). There is, further, a possibility, based on certain morphological resemblances of the formations, that bovine tuberculosis is communicable to man.

15. If the foregoing data be true, it follows that tuberculosis is an infective disease, probably due to the presence of a virus, which gives rise to the development of peculiar tissue-formation, capable of localized or general propagation in the body, and characterized mainly by their tendency to early disintegration.

16. Until the nature of the virus is known, it is impossible to formulate data concerning the conditions under which the disease arises in subjects free from inherited taint.—*Brit. Med. Jour.*

OPERATIVE INTERFERENCE FOR PULMONARY GANGRENE.—Bull, after describing a case of *operative interference for pulmonary gangrene* [free incision, evacuation of pus, washing with carbolized water, and thorough drainage], with the production of a complete cure, thus gives the history of another case in which pulmonary abscess existed, and the indications for a similar operation were urgent, but in which, owing to the non-performance of such an operation, death ensued. He thinks that the operation is indicated in pulmonary abscess, gangrene, or excavation, with firm adhesion of the adjacent pleural surfaces. Previous investigation with an exploring needle is recommended as quite safe, and as affording useful information in regard to the nature and seat of the disease. Strict antiseptic precautions are not necessary, especially as the air will find access to the spot through the bronchi as well as through the incision. In establishing and maintaining drainage, great care must be taken not to excite hæmorrhage or irritation of the exposed pulmonary surface.—*Nord Med. Ark.—N. Y. Jour.* & *Obst. Review.*

ON THE EARLY TREATMENT OF PROSTATIC OBSTRUCTION.—It may be generally stated that of males who have passed fifty-five years of age, about one-third sooner or later have enlargement of the prostate; of these about one-half suffer therefrom, though so long as micturition is efficiently and painlessly performed, there are seldom grounds for complaint.

It is exceedingly interesting, as indicating how relief may be afforded, to analyse the cases where the prostate is large but does not obstruct; there are at least two conditions explanatory of non-interference with micturition under these circumstances.

First, where the hypertrophy is towards the rectum and the relations of the prostatic urethra are not altered and second, where the hypertrophied gland is lobulated and channels are left between the masses along which urine flows without interruption. A careful consideration of these conditions has suggested that they are capable of artificial production to a useful extent.

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[1] In these cases, probably by extension along lymphatic channels.

The teaching of the present day is, however, to the effect that mechanical treatment is not to be employed until either retention occurs or the bladder becomes inflamed, then such means may be resorted to. It was asked why the same treatment should not be applied as in the case of urethral stricture. The objection generally advanced is that irritation will be produced. It was urged that there was no evidence in support of this objection. On the contrary, the prostate was about the most long-suffering organ in the body, and though it was subjected to a great variety of mechanical expedients, in lithotomy and other operations, it rarely became inflamed. It might just as well be said that because strictures were found occasionally to be exceedingly irritable, treatment was to be postponed until retention of urine or cystitis were provoked. But if intolerance to early mechanical treatment were proved, it was only postponing the day until the necessity was greater and the difficulty more apparent. If there was danger of irritating the prostate, it was none the less because its size was larger.

With the view of obtaining under similar conditions to those occurring naturally in large prostates, where there is no interference with micturition, a mode of treatment with specially-adapted bougies was described. The instruments are gum-elastic, two to four inches longer in the stem than usual, with an expanded portion an inch from the tip, which is made to enter the bladder. In this way the prostatic urethra is subjected to pressure on the insertion and withdrawal of the instrument.

As a rule, if dilatation is not too rapidly proceeded with, no irritation is aroused. On the contrary, greater toleration of urine follows, owing to the ease and completeness with which the bladder is then emptied.

In a few persons it became necessary to establish a state of instrumental toleration, the frequency for doing this, as a rule, depending more on the manipulator than on the instrument. In some individuals intolerance of urethral interference was entirely due to the condition of the urine. Such sensitiveness has been traced to the presence of uric acid in unnatural quantities and form. On the correction of this, patients previously intolerant of instruments were found capable of undergoing the necessary mechanical treatment with the greatest advantage.

In advocating the early treatment of prostatic obstruction by the means referred to, the author had already had sufficient proof of its efficacy. He had demonstrated that the regular use of the dilators was capable of so moulding the enlargement as to prevent obstruction. Cases were under observation where the symptoms indicated that an impediment to micturition was commencing to form. Such patients in this way regained the power they were beginning to lose. In bringing forward his views on the subject, Mr. Harrison did so with the feeling that little had been yet done towards preventing the progressive development of a condition which was often followed by very distressing, and sometimes embarassing, results—results which we knew of and stood by to palliate, though we had hitherto been helpless in preventing them.—Abstract of paper by Reginald Harrison, F.R.C.S.—*Med. Press and Circular.*

UNILATERAL PERSPIRATION AND HEMIATROPHY WITH THEIR RELATION TO THE NERVOUS SYSTEM. Takács (*Centralblatt f. Nervhlkd.*, 1881, 13), has observed a case in which the patient (a man, aged 32, left-handed) was seized with pains, weakness and stiffness in the right extremities. At the same time he ceased to perspire on the right side of the body. Pilocarpin injections produced some sweating on that side, especially on the back of the hand, where perspiration appeared more abundant than on the left hand. The whole right side of the body was, when patient came under observation, viz., two years after the beginning of the disease, much thinner than the left. There was distinct atrophy of all the right hand-muscles, which showed deficient reaction to electricity.

The author remarks that most cases of a similar nature hitherto described have been referred to hyper- or hypokinetic conditions of the sympathetic. He thinks, however, that the combination of pupillary vasomotor and trophic symptoms has its origin in the cord itself. The cilio-spinal centre accounts for the pupillary symptoms. And, according to the late researches of Adamkiewicz, perspiration is governed by the anterior grey matter of the cord. The suspension of perspiration does not depend upon a mere vasoconstruction, but upon paresis of special nerve action, and pilocarpin is a stimulant of such an action.—*Brain.*

URIC ACID IN DIABETICS.—Dr. Coignard publishes in the *Journal de Therapeutique* an important article on the subject of the etiological conditions of diabetes and its prognosis. M. Coignard at once recalls that it is classic to consider nephritic colic, followed by the elimination of uric acid gravel, as one of the most frequent precursory phenomena of glycosuria and albuminuria. Moreover this work gives evidence to the fact of patients becoming glycosuric, with whom for many years a chemical analysis of the urine made at different times, had shown an excess of uric acid without any other anomaly. M. Coignard cites many observations showing that uric acid in excess in the urine of patients, whether they have nephritic colic or not, is a premonitory symptom of glycosuria. Here another question presents itself: are these patients diabetic or simply glycosuric? In other words, do there exist positive differences between diabetes and glycosuria? M. Coignard thinks, following observations collected from different authors, and after seventy-nine of his own, that diabetes is to glycosuria as pernicious fever is to simple intermittent fever; that is to say, that diabetes would be a grave form of a comparatively mild and often passing morbid condition. So, very often, habitually even, the patient who eliminated in twenty-four hours 10 to 30 grammes of sugar for ten years, all at once, from no appreciable cause, comes to eliminate 100, 200 grammes and more; then under the influence of a well directed treatment the amount of sugar descends again to 100, 80 grammes per diem sometimes, but rarely lower, and the patient falls away and succumbs to some intercurrent affection without the amount of sugar being again sensibly increased.

On the other hand, a man hitherto to all appearances in good health, all at once, in the space of a week, is attacked with thirst, polyuria, embarassment of speech, dyspnœa, etc. Analysis of the urine shows 400 and 500 grammes of sugar and 45 grammes of iodine and more. However, under the influence of treatment, after one or two months, often more, the amount of sugar is reduced to four or five grammes, all the grave symptoms disappear and the man seems almost cured. Where is the diabetes? Where is the glycosuria? The distinction appears impossible in the actual state of medical knowledge, and perhaps it is reasonable to consider the man in whose urine sugar is found as depressed from some cause or other. Sugar may be found at some given time in all diseases, from chlorosis and hysteria to intermittent fevers and a great number of acute affections. Sugar in the urine is a symptom, it cannot, according to M. Goignard, be made the pathognomonic sign of a determinate lesion.

Another point arising from the observations of M. Coignard is, that glycosurics in whom the quantity of urea excreted is increased at the same time that excretion of uric acid is below normal, present a condition whose prognosis can be considered grave. On the contrary, when uric acid is in excess in urine containing sugar, the urea remaining normal, the prognosis although reserved, seems more favorable. The most of the patients affected with diabetes called intermittent, whose health is scarcely altered although the affection is of long standing are indeed uricemic. The study of uric acid in diabetics is then of great importance, for if the facts could be exacted in absolute manner, which it is true can hardly be possible in an affection with such variable conditions, it would permit the immediate formation of a prognosis. C. C.

IODOFORM INSUFFLATIONS IN LARYNGEAL PHTHISIS.—Beetz (*Berl. Klin. Woch.*, No. 2, 1882) gives details as to his method of applying this remedy. Iodoform, finely powdered by rubbing up with ether, may be applied to the larynx by by insufflation with so little irritation that the morphia at first added can very quickly be omitted. The amount used, 30 grains daily, in three or four applications, is not enough to cause toxic symptoms. To prevent, as far as possible, annoyance from the odor of the remedy, an inhalation of carbolic acid solution may be given before the insufflation; a proceeding which will also allow the more direct application of the remedy to the ulcerated surface, although Dr. Beetz has found the idoform alone to succeed admirably.—*London Med. Record.*

AN ANTIDOTE FOR STRYCHNINE.—Messrs. Greville Williams and Waters (*Proceedings of the Royal Society*, xxxi, p. 162). have discovered an antidote for strychnine in the organic base first prepared by the former, by distilling chinchonine with caustic potash, and to which he assigned the name *B* lutidine. Having ascertained, by experiments upon frogs, that *B* lutidine causes a distinct increase in the tonicity of both cardiac and voluntary muscular tissues; also retardation of the heart's beat; and it arrests the inhibitory power of the vagus; and that, by its action upon the nerve-cells of the spinal cord, it, in the first place, lengthens the time of reflex action, and then arrests that function; they proceeded to test its direct counter-action to strychnine. The brains of frogs were destroyed in the usual way. An animal was then treated with *B* lutidine till reflex action disappeared; when the subsequent administration of strychnine was not followed by the usual results. To another frog, strychnine was given till strychnine tetanus was produced, when it was found that the subsequent administration of lutidine caused the tetanus to pass off. The almost simultaneous administration of the two bases was not followed by tetanus. The results of these experiments are most promising; and it is to be hoped that the fanaticism of the antivivisecting portion of the community will not be influential to prevent the use of *B* lutidine in practical toxicology. We hope to hear that the base has been used for experiments on animals poisoned by strychnine, and whose brains have not been destroyed.—*British Med. Journal.*

THE TREATMENT OF CHLOROSIS.—Dr. Zander is opposed to the theory which accounts for chlorosis upon the hypothesis that the food is deficient in iron. He rather supposes that the fault lies not in an insufficient quantity of iron in the food, but in insufficient absorption of such iron as is present, owing to morbid changes in the secretions of the digestive tract, more especially owing to the absence of a proper proportion of hydrochloric acid in the gastric juice. As a result of this the proteid foods are incompletely digested and nutrition is affected. In the treatment of chlorosis the author therefore prescribes two to four grams of hydrochloric acid diluted with 200 grams of water; a tablespoon or two to be taken after each meal. In very obstinate cases pepsin may be mixed with the acid, and the results thus obtained are said to be most satisfactory.—*Le Progrès Médical.*—*The Practitioner.*

THE USE OF IODOFORM IN THE TREATMENT OF SOFT SORES.—Iodoform appears to be one of the most efficacious drugs in the treatment of the syphilitic non-infecting soft sore, when not unduly inflamed. It has, however, the unfortunate counterbalancing disadvantage of attaching to the patient the liability of unenviable suspicion, and the significant expressions of his companions—the public having become keenly alive to its distinctive and penetrating odour, and having also acquired an appreciative knowledge of the principal purpose for which the drug is most frequently used.

The various attempts which have been made to disguise or modify this peculiar odour appears hitherto to have failed. Tonquin beans, kept in the same bottle with the iodoform, succeed to a certain extent and for a limited time. The beans, however, possess a smell which is regarded by many with equal objection to that of iodoform.

I have succeeded, I consider, in obviating this objectionable feature, without apparently sacrificing any of the therapeutic advantages of the drug, by using it after the following manner. I first very carefully cleanse and dry the sores by means of little pledgets of bibulous paper, and then, by means of a camel-hair pencil, apply freely over the surface of the sores a solution of iodoform in ether. The ether rapidly evaporates, and leaves the iodoform uniformly spread in an impalpable powder over the sores.

To ensure a free application, the latter part of the process may be repeated and allowed to dry. When perfectly dry, each sore is given a coating of collodion, which is allowed to overlap about a quarter of an inch the area of each sore. Before the collodion has had time to dry, a pinch of absorbent cotton-wool is placed on each patch as a protection against the rough contact of clothing. This dressing is allowed to remain undisturbed for twenty-four hours, when the firm film which forms may be gently removed and a fresh coating applied. This treatment is continued day by day until all the sores have quite healed. I have found, on the same principle, and with equal success, that a piece of goldbeaters' skin may be substituted for collodion after the application of the iodoform.

By this means, the patient and his associates are spared the disagreeable consciousness of the remedy being employed, whilst the full benefit of the drug is being preserved. A further advantage gained is the protection afforded by the collodion against auto-inoculation, and also against the risk of contagion from others coming in contact with the sores.

The iodoform solution I am in the habit of using has been made for me by Messrs. Standring, Son, and Co., of Manchester, by dissolving one part of iodoform into two of ether; and, in my Lock Hospital practice, where time and economy is of moment, I have the collodion and iodoform mixed together, the formula being iodoform one part, ether two parts, collodion to ten parts. In the latter solution, the odour cannot be said to be wholly disguised, but it is sufficiently concealed for all practical purposes.—*Brit. Med. Jour.*

TUBERCULOSIS.—Tuberculosis is for Rindfleisch a disease which was once directly communicable from one person to another, but which is so no longer, owing to the hereditary transmission of an acquired immunity. In other words, the whole human race was once so universally affected with this disease that they (and their descendants) were thoroughly "saturated" with the tuberculous virus, and so were proof against the effects of re-inoculation or of contagion. Unfortunately, the descendants are still capable of developing the disease, when an inherited tendency for the affection is combined with a diminution in the power of resistance to morbid influences. The author believes that leprosy has passed through a similar evolution from a contagious disease, in the time of Christ, to a non-contagious disease, as it is seen at the present day. The tuberculous process may be diffused throughout the entire body, or may be confined to one or two organs, or may be developed in connection with inflammatory processes in a single organ, or may show itself in a localized inflammation with little or no deposition of tubercle (scrofulous inflammation). The tuberculous exudation possesses several peculiarities. One is the presence of characteristic large round cells, possessing one or more vesicular nuclei, and a finely-granular protoplasm. These are regarded by Rindfleisch as epithelioid in character, while the giant cells he believes to be distinctly epithelial. Another peculiarity of the tuberculous exudation is found in the presence of masses of a coarsely granular albuminous substance, which quite possibly represent accummulations of micrococci in the condition of zooglœa. The final distinguishing feature of a tuberculous mass, i. e., its tendency to caseous degeneration, is not, in the author's view, to be ascribed to any specific action of the virus, but merely to the effect of an arrest of nutrition. [Grawitz has suggested that the mildness of the small-pox at the present day may be due to the transmission of an acquired immunity such as, according to Rindfleisch, holds for tuberculosis; and it has been imagined that, in a similar fashion, syphilis may yet die out as an infectious disease. But, in regard to tuberculosis, it seems curious that hereditary influence should produce, on the one hand, a general immunity against, and, on the other, a particular predisposition to, the disease.]—*Arch. f. Path. Anat. und for Klin. Med.*—*N. Y. Med. Jour.* & *Obst. Review.*

TREATMENT OF GOITRE WITH ERGOTIN.—M. Bauwens, speaking of the *treatment of goitre with ergotin*, divides cases of goitre into the following classes: 1. Cystic goitre, with easily apparent fluctuation. 2. Goitre partly cystic and partly hypertrophic. 3. Goitre characterized by diffuse parenchymatous hypertrophy and great vascularity. 4. Recent goitre, soft and diffuse. In cystic goitre, and in soft, diffuse, recent goitre, the author considers that iodine is the best remedy, and has most confidence in parenchymatous injection as the mode of its employment. He calls attention to the fact, however, that in proportion as vascularity predominates as a cause of thyroid enlargement, so will iodine fail to cause reduction. Iodine stimulates the reabsorption of the contents of the cysts, but cannot cause the vascularity to diminish. It is in these latter cases that the author recommends ergotin. The ergotin should be injected into the substance of the tumor; it at once causes contradiction of the muscular coats of the small arteries, and a diminution in the size of the tumor and in the amount of pulsation observed in it is at once apparent. He uses the following solution: ℞. Yvon's ergotin, 1 gramme (gr. xv); glycerine, water, in equal parts, enough to make 7 grammes (℥ j¼). Of this solution he injects 2 grammes (ʒ ss.) at a time directly into the substance of goitre; this treatment is repeated at intervals of about two weeks until a cure is effected. It may not be out of place to mention that the ergotin of Yvon does not differ in any essential from that of Bonjean and other makers. The author reports the following case: A woman of twenty-nine has suffered from goitre since the age of fourteen. Moderate in size for seven or eight years, the tumor had lately begun to enlarge quite rapidly; at the time of examination it measured three inches transversely, by two and a half vertically, the right lobe predominating. It was elastic to the touch, pulsated, and presented a slightly marked souffle. At the menstrual epoch, upon excitement, or as a result of singing, shouting, or hard work, the tumor became more enlarged, and pulsated vigorously. The signs were those of a goitre essentially hypertrophic, with predominance of the vascular element. At times there were attacks characterized by dyspnœa, buzzing in the ears, dizziness, and dimness of vision. Twice the patient had suffered from attacks of complete aphonia lasting two or three weeks. Iodine had been tried in various forms and ways, but without any good result. Parenchymatous injections of ergotin, as described above, were practiced for five weeks every six or seven days; at the end of that time the tumor had completely disappeared. There was at no time any considerable soreness or pain as a result of the injections. A little swelling with some sensitiveness at the point of injection, lasting only about forty-eight hours, was the only trouble occasioned. The author suggests the treatment in exophthalmic goitre, although he has not yet had an opportunity to try it.—*Concours Medical.*

PERIPHERAL TROPHIC INFLUENCES ON NERVE-CENTRES.—We are familiar with atrophic degeneration of tissues, as the result of a morbid or deficient activity of nervous centres. We recognize, for instance, as atrophies of nervous origin, degeneration of the spinal cord and of the nerves themselves, amyotrophy, acute decubitus, etc., the process being in all these cases centrifugal in relation to ganglionic matter. Rumpf's experiments, recorded in the number of Pflüger's *Archiv*, afford an important addition to our knowledge; and forcibly recall to mind that a nerve-fibre, with its terminal cells, peripheral and central, is an "individuum," with regard to its nutrition as well as to its function. His observations relate to the trophic action exerted upon centres from the periphery. He finds in frogs that the spinal cord or brain, after severance of all nervous connection with the tissues, is absorbed after a preliminary stage of swelling; and, by exclusion, he determined that the immediate antecedent of this event is interruption of the motor channels. The absorption proceeds with great rapidity; isolated portions of brain are absorbed in twenty-four hours, and the spinal cord disappears in five to eight days, leaving only connective tissue in its place. If the sensory roots be alone divided, the motor roots being left intact, removal by absorption does not ensue, or is much delayed, which indicates the existence of a centripetal influence maintaining the integrity of the cord, passing mainly by motor channels. Nor is absorption notable if only some of the motor roots be divided, leaving others intact; which goes to prove that the latter act vicariously in the preservation—or, in other words, that the trophic influence spreads throughout the cord. Considering it as a continuous action of periphery upon centre, the converse of tonus or the continuous action of centre upon periphery, Rumpf denotes the supposed action by the term "*retro-tonus*." These observations, if well established, are data for points of doctrine which, if they are not absolutely novel, have been hitherto at least nebulous. Retrograde stimulation of nutrition has been invoked, when, by electrical stimulation of muscles, it has been sought to act beneficially upon damaged centres. Rumpf's experiments to some extent support the theory, that centres may be influenced through motor as well as sensory channels, and make it credible that centres, which are incapable of motor expression, should nevertheless be affected by the retrograde stimulus of artificial motion at the periphery. But, in the present state of the subject, it must be said that the facts, even if certain for the frog, render the existence of an analogous influence on higher animals neither certain nor probable, but only less improbable. The facts, however, are a considerable addition to the ideas of physiological procedure, on which our clinical inferences are based; and we hope that the study of more differentiated nervous systems than that of the frog may lead to more definite and practical information.—*British Med. Journal.*

DIVORCE AND MENTAL ALIENATION.—MM. Blanche, Charcot, and Legrand du Saulle have been heard by the commission on divorce now sitting in Paris, for the purpose of recording their opinion on the question whether insanity should rank amongst the reasons for divorce. A writer in the *Gazette Hebdomadaire*, for February 17th, who signs himself "A.D.", states that they answered the question in the negative sense, with some reservations; which, however, he does not specify. The writer approves of this conclusion, and goes on to state his reasons as follows. The most general consideration to be brought into relief is, that insanity is a disease; and that no disease, even impotence, is a reason for dissolution of marriage. The lunatic is a man suffering in his moral and intellectual health, as others suffer in their physical health. He deserves the same or even greater care; only there may be need to take precautions against the effects of his mental loss of balance; for which, however, there is no need either of divorce or separation. In the second place, chronic insanity, although often incurable, is not necessarily so; and it would be difficult to imagine a more cruel and unjust situation than for a married person to return to the domestic hearth after an unexpected recovery, and to find the other party to the contract in the bonds of a fresh marriage. The form of dementia known in France as *folie circulaire* frequently yields these surprises; and we are told that M. Blanche cited a remarkable example before the commission, in which the insanity had lasted sixteen years. General paralysis, it is true, is incurable; but it will not be denied that it may show such long and complete remissions that the most experienced practitioners may be inclined to consider them definitive; and that, in any case, the patient must be restored to his or her family. As to those cases in which the mischief makes almost continuous progress, and distinctly authorizes a fatal prognosis, M. Charcot is stated to have laid down the dictum that the only conduct to be prescribed to families is to redouble every possible attention, and to have patience. As to epilepsy, nothing is more common, especially in young persons, than to meet with it limited to one or two attacks, never to show itself again. It is these cases specially which Foville thought were connected with the eruption of the large molars or wisdom teeth. There are epileptics from worms; and the author cites the case of a librarian in whom the attacks entirely disappeared during the twelve or fifteen years he lived after evacuating a tænia. The writer of the article, whence we take these considerations on an interesting and important social question, points out that it is by no means uncommon to meet with persons sufficiently wanting in the moral sense to speculate by marriage on the diseased conditions of their fellow-creatures. Those affections which are slow in presenting their character, but are not unfrequently recognisable in their early stages, as phthisis and insanity, are particularly adapted to this kind of calculation. The prospect of divorce would be yet another encouragement, and so much the more tempting, so far as regards dementia, that it would be much more easy to accomplish an act of spoliation in the case of a person of weak intellect after marriage.—*British Med. Journal.*

M. BROWN SÉQUARD, Professor at the College de France, has communicated a paper to the Académie des Sciences, entitled "Arret des Échanges entre le Sang et les Tissus." M. Brown-Séquard believes that a nervo-dynamic influence is the cause of this arrest; secretions are suspended, animal heat is lessened, serious and rapid modifications take place in the respiratory and circulatory apparatuses. The principal causes are: lesions of the central nervous system, either by direct influence or by reflex action; crises in different affections, such as angina pectoris, peritonitis, injuries which influence nerves and ganglia; submersion; strangulation; and puncture of the diaphragm. The effects are various. 1. Venous blood may become red; 2. The quantity of carbonic acid present in the blood is lessened: 3. The final convulsions which precede death in ordinary cases of asphyxia are not present; 4. A general frigidity appears during life, and increases after death; 5. Contraction of the blood-vessels is constant; 6. The physiological vitality of the spinal cord persists some time after death; rigidity supervenes slowly, and lasts a long time.—*British Med. Journal.*

SEMON ON ABDUCTOR LARYNGEAL PARALYSIS. Dr. Felix Semon (*Archives of Laryngology*, No. 3, July, 1881), discusses the fact, which has been noted by various other observers besides himself, that the abductor muscles of the larynx have a special proclivity to paralysis, whether in central or peripheral disease of the vagus, spinal accessory, or recurrent laryngeal nerves.

With the exception of the crico-thyroid, as is well known, all the laryngeal muscles, adductors as well as abductors, are supplied by the recurrent laryngeal, which gives off the individual muscular branches when close to the larynx. But that there is differentiation of the centres and fibres for the various muscles is shown by the fact —and twenty-two cases are quoted—that in slowly progressive lesions, whether of the centres, or peripheral nerves supplying the larynx, the posterior crico-arytenoid muscles may be paralyzed alone, or at least before the others are appreciably affected. On the other hand, he has not been able to find any case of *organic* disease of the nerve-centres or trunks, in which the abductors only were paralyzed, though in functional neuroses the adductors are more particularly affected.

As to the cause of the special selection of the abductors in organic disease, if of central origin, we might explain it by a differentiation of the abductor from the adductor centres, though the question would remain, why should the abductor centres be specially affected? Various hypotheses might be entertained as to this, viz., the mutual co-operation of the adductor centres giving them greater resisting power than the isolated abductors; the abductors being more automatic and less under volitional control; and lastly, the analogous fact, that in central diseases the extensors are sooner affected than the flexors.

But as the same phenomenon occurs also in peripheral disease of the nerve-trunks, we may suppose either that the disposition of the nerve fibres is concentric, and the abductor fibres possibly situated at the periphery; or that there is a specific vulnerability of the abductor filaments; or that possibly the adductors receive an increment of nerve force from the superior laryngeal nerve.

But all these hypotheses, he argues, are more or less open to objection, and he does not think that at present a satisfactory explanation is possible. Practically, however, the facts are of great value. If the vocal cords are immovable in the phonatory position, all the possibilities should be considered which might cause affection of the entire larygeal nerve; immobility of the cords in the position of deep inspiration, if not occasioned by mechanical impairment or myopathic affection, is probably due to a functional neurosis, or local affection of the adductor twigs.—*Brain.*

STUDIES ON HYPNOTISM.—M. Dumontpallier has observed in his service a patient who at the termination of an attack of hystero-epilepsy, caused by fright, became a lypemaniac. She remained several days in this state, and it was only necessary to plunge her in the hypnotic sleep by fixing the eyes, and to awake her an hour later, by the same method, to have all traces of melancholy immediately disappear. Some time after her lypemania reappeared; the induced sleep and awakening succeeded, as in the former attempt in procuring a cure which, up to this time, has been constant.

Certain hysterical persons possess, during the hypnotic sleep, an incredible muscular sensibility. One extremity of a rubber tube 5 to 6 metres long and 1 centimetre in diameter is applied to a muscle of the leg, the other extremity is placed in relation to a watch and each tick of the second hand provokes a small contraction of the muscle. The experiment can be repeated indefinitely with the same results. The telephone produces similar results, and if a microphone be interposed, a look or artificial light brought to bear upon it, immediately influences the muscles and originates contraction.—*Progrès Médicale.*—*St. Louis Med. and Surg. Jour.*

SURGERY.

Trephining an Idiopathic Abscess of the Brain.—The patient, aged forty-five years, had suffered since his thirty-seventh year of phthisis, with repeated attacks of hæmoptysis; from this he apparently recovered completely. In March, 1881, he suffered from severe migraine of the left side, the pain being most marked in frontal and occipital regions. The seeing of sparks and flashes, by which the patient had been troubled, was substituted by a cloud which appeared before his eyes. In walking he would strike against objects approaching from the right side, and an ophthalmoscopic investigation revealed that the right squints of both fields of vision were insensible to light. Gradual emaciation of the patient; loss of appetite; occasional attacks of fever with slight chills; increasing debility. Tongue and facial muscles unaffected. Right arm and leg decidedly paretic; the lower leg being more so than the upper extremity. Sensibility to pain retained in both. The paretic symptoms supervened four months after the ocular trouble.

From this last named symptom it seemed very probable that the abscess which was suspected, originated in the cortical portion of the cerebral hemispheres, positively whence the disease extended forwards and in the course of time involved the motor centres. In its extension forward, the diseased process first came in contact with the moter centre for the lower extremity, and in this way the greater paresis of the lower limb can easily be explained. The facial and lingual centers being farthest removed, the parts supplied from them remained unaffected.

Since there could be no doubt as to the nature and bent of the lesion, the indication for trephining was directed. Ubi pus evacua! It was the only chance for saving the life of the patient. The operation was practiced while the patient was fully narcotized with chloroform. The hair having been removed from the left side of the scalp. An incision was made six cen. in length, beginning three cen. below the superior posterior angle of the parietal bone, and continued towards the anterior and inferior angle. Upon this a second incision was made at a right angle. A button of bone having been removed, the exposed dura mater looked distended; no pulsation perceptible. When the dura mater was opened, no pus was visible. The cortical substance appeared softer than usual and was œdematous. About 4 cen. beneath the surface a somewhat resisting mass could be felt. Into this a canula was introduced and vent given to a drop of pus. A deep incision was then made into this part and three teaspoonfuls of rather thick pus escaped. The pulse at once improved and pulsations of the brain became manifest. The abscess cavity was washed out with a pulverized solution, and a thin drainage tube inserted into it. During the first six days after the operation a decided improvement was observed in the condition of the patient. The patient's condition was ameliorated, respiration freer and sensorium clearer. On the evening of the sixth day a chill supervened, from which time the patient declined rapidly, and died on the fourteenth day after the operation.

The post-mortem examination revealed a tubercular abcess of the posterior portion of the left parietal and occipital lobe of the brain. Recent spontaneous perforations into the left lateral ventricle. A few small tubercular masses were detected in the vicinity of the large abcess.—C. Wermicke and E. Halm, *Virch. Arch.*, *Vol.* 87.

Erosion of the Internal Carotid.—Prof. Hessler has collected the recorded cases of erosion of the internal carotid from caries of the temporal bone and has added a case of his own to the number. In 13 cases *post mortem* examination clearly demonstrated the erosion of the vessel wall while in six instances the investigation could not be made, but the lesion was believed to have been present from clinical symptoms. In addition a list of these cases is appended in which the osseous wall of the carotid had entirely disappeared so that the vessel was bathed in pus without, however, the development of hemorrhage.

The hemorrhage from the carotid supervenes with great suddenness, without prodromata, cough, or pain while the patient is at work or asleep. Not as a rule after physical or mental excitement. The stream of blood is of a bright arterial hue, and is projected from the external ear with the rythm of the heart. At times there is hemorrhage from the mouth and nose, the blood oozing thither through the eustachian tube. If the hemorrhage is limited in amount it is either arrested spontaneously or can be checked with a tampon placed in the external auditory canal. In severe flows it can only be checked by prolonged digital compression of the common carotid.

The sudden appearance of the hemorrhage without any special exertion shows that the force a pulse-wave of ordinary extent suffices to break through the diseased arterial wall. Although the hemorrhage is checked in the majority of cases, (in only one of the 13 cases did it lead to death directly) it usually recurs after a longer or shorter interval. The number of relapses in the tabulated cases varies from two to twelve. The interval between the appearance of the first hemorrhage and the death of the individual varied from five minutes to thirty days. In those cases in which ligature of the carotid was practiced, death resulted in 20 and 24 days and two and one-third months after the appearance of the first hemorrhage. From a review of the cases, it is advisable in severe hemorrhage, to resort to operative interference, since the tamponade of the meatus is unreliable and since digital compression for a time sufficiently long to be of service to the main trunk is difficult of accomplishment.—Hessler, *Arch. f. Ohrenheilk., XVIII., S.* 1.

VESICAL CALCULUS IN A CHILD ONE MONTH OF AGE.—A boy, one month old, otherwise healthy was brought to the author with the following symptoms: Micturition was frequently accompanied by loud crying. The mother of the child accidentally discovered, that whenever she placed the child in such a position, that the head was on a lower level than the feet and basin, the child became quiet and the urine was voided in a larger stream. About 24 hours before the author saw the case, the symptoms again became manifest, but could not be relieved by the manipulation above described. The author discovered the bladder distended, and felt in the middle of the penis, in the urethra, a foreign body, which, after examination with a sound, proved to be a stone. Attempts at extraction were fruitless. Hence a few drops of oil were injected into the urethra and with great ease the stone was pushed forward toward the orifice and after dilating the latter, it dropped into the hands of the operator. It weighed 0,25 grams, was 8 mm. in length and 5 mm. in breadth, striated and consisted of urates. The urine contained a large amount of uric acid crystals and urates. Consequently the formation of the stone commenced during intrauterine life. The parents of the child were healthy, except the grandfather on the mother's side having suffered with vesical calculus.—J. W. Troiske, *Deutsche Med. Geis.*

OPERATIVE TREATMENT OF OZŒNA SIMPLEX.—During the last year, I have attempted in two cases of ozœna, affecting young girls, to bring about a better ventilation of the nares by removing the lower and greater portion of the middle turbinated bones. In both cases I have met with striking success. The most harassing symptom, and that for which the patient sought relief, the penetrating odor of the discharge, disappeared. It should be remarked, however, that disinfecting lotions were used. The same injections had, however, been made for months and years before the operation, without effecting any improvement in the character of the discharge. In both of these cases, the nose was naturally of narrow construction, the inferior meatus permeable only to very small instruments, the vomer deflected from the median line, with the turbinated bones almost completely filling the cavity, particularly in the side.

In one case the nasal mucous membrane was very much congested and of velvety appearance. In the second case cicatrices of previous ulcerations, covered with thick, fetid crust" was perceived. Aside from the benefit which the sense of smell derived from this operation, the enhanced facility for breathing and cleansing the nose was most gratifying to the patients.

Until a better operative procedure is devised, I would suggest that a concave chisel be introduced into the nares, with the cutting edge placed against the anterior margin of the turbinated bones.

A few strokes upon the chisel with the hand will displace the bone, and its attachments to the soft parts can then be divided with scissors. In case of severe hemorrhage, plugging of the nostril may become necessary. Although I have operated in only two cases of simplex ozœna, a rather rare affliction, I have deemed it advisable to impart my experience to my confreres.—Richard Volkmann in *Zeitsch f. Chir.*, 4 ii., 1882.

SIMULTANEOUS FRACTURE OF BOTH PATELLÆ BY MUSCULAR ACTION.—In the Annales de la Société médicale d'Anvers Dr. Victor Desguins published the history of a gymnast twenty-eight years of age, who suffered for some time with vague pains in the knees, which he ascribed to rheumatism. One night in jumping to catch the trapeze, (a leap of about 6 inches only), he fell short. There was immediately noticed a considerable swelling of both knees, fracture of both patellæ with more than an inch separation between the fragments. The patient was treated with an immovable wadded plaster dressing, with an anterior splint compressing the muscular masses.

At the end of a month another dressing was applied and the third month *massage* was exerted. At last, four months after the accident, the patient had nothing more than a little stiffness, both patellæ were united by a fibrous callous of medium length.

The author attracts attention to the fact that there must certainly have been a primary alternation in both patellæ, for the fracture occurred after a moderate effort only, in an exercised gymnast accustomed to great efforts. The preceding pains in the knees confirms the predisposition to fracture analogous to that in all cases of fractures of the patellæ caused by muscular action.—*Journal de Médecine et de Chirurgie, Feb.* 1882.

C. C.

THE CATGUT LIGATURE.—It is little more than a year ago that Mr. Lister delivered his presidential address to the Clinical Society of London on the catgut ligature. In it he described a mode of preparing the catgut by soaking it in a watery solution of carbolic and chromic acids, whereby it was strengthed and in other ways adapted to the purpose of tying arteries in continuity. On Friday last he declared that, after delivering the address referred to, and which he believed to include the final results of his experiments, he was dissappointed at discovering that ligatures prepared in the way recommended varied a good deal, the thicker ones becoming speedily infiltrated at the surface in place of being eroded. Further inquiries and careful experiments led him to associate the faults complained of with details of manufacture of the catgut. Following out the line of experiment suggested in this connection, he finally secured a catgut free from the ill qualities which made the chromicised substance of less value. This desirable end is attained by steeping the catgut, first in a solution of chromic acid, 1 per cent, for twelve hours, and subsequently in sulphurous acid, B.P., strength, for the same length of time. The material thus prepared can be stored in the dry state until required for use, thus doing away with the need for keeping in carbolized oil, as must be done in the case of the chromicised gut previously described by Mr. Lister. The new ligature before using is plunged into a watery solution of carbolic acid, which can be kept on the tray containing the instruments; and its inventor claims for it that the infiltration observed in the case of other catgut ligatures does not occur with it, and that it is eminently strong and adapted to the purpose of tying vessels.—*Med. Press and Circular.*

OPHTHALMOLOGY—OTOLOGY.

Affection of the Eye caused by Masturbation.—The Roue d'oculisteqe du Sud Ouest gives curious details upon the special etiology of affections of the eye. The relation between masturbation and diseases of the eye, has up to the present attracted but little attention from practitioners; it is not even mentioned in the best treatises on ophthalmology. According to the *American Specialist*, Dr. Landesberg says that he has seen only two of these cases mentioned in works upon ophthalmology. One of these cases is related by M. Dien who says that an amblyopia developed in a child five years old in consequence of masturbation, and that after curing a phimosis, the determining cause of this habit, that vice having been abandoned, the sight returned to its normal state.

The other cases are cited by Foerster who said that he had met with very obstinate cases of chronic catarrh of the eye in patients from twelve to twenty years of age, in whom he ascertained that onanism was the sole cause of the affection; and Dr. Landesberg believes that chronic inflammations of the eye resulting from masturbation are not as rare as one would suppose from the little that has been written on this subject. He has observed in the two sexes a constant relation between acne of the face, chronic catarrhs of the eye, and masturbation.—*Journal de Médicine et de Chirurgie, Feb.*, 1882. C. C.

Purulent Rheumatic Conjunctivitis.—M. Maurice Perrin reports five observations which tend to show that rheumatic conjunctivitis, far from always being benign, can act absolutely like purulent ophthalmia; in some cases indeed the cornea has been perforated and the eye destroyed. With these patients he has shown that there was neither blenorrhagia nor suspicious contact. But four out of five were attacks with acute or subacute rheumatism at the same time with the ophthalmia, and the fifth was the son of a rheumatic. One is constrained then to admit the rheumatic nature of these conjunctivites. But in this case, if purulent conjunctivitis can proceed from rheumatism, one can ask if blenorrhagic ophthalmia instead of being attributed to direct contact, cannot be due to rheumatism as certain cases of blenorrhagia themselves are. M. Perrin cites *à propos* to this observation made by M. Debaussaux, where a young man is attacked with a double purulent conjunctivitis, without any urethral discharge. Now, the next day a urethral discharge shows itself, and two days after the knees are attacked with arthritis. This patient became pretty well, but three months later he was attacked with a new conjunctivitis, then with urethral discharge and with rheumatism. Now, the father of this young man, a rheumatic, had been affected some years before with a urethral discharge lasting fifteen days and healing spontaneously. C.C.

Defective Hearing in Children.—Dr. Weil, of Stuttgart, has during the last years examined 4,500 school children in reference to their hearing. The examination, which included boys and girls of all social classes, yielded the following results: 1. A normal ear can in a quiet neighborhood hear whispering of an ordinary fondness at a distance of twenty to twenty-five metres; 2. defects of hearing are exceedingly common—in the public schools 30 per cent of the children were found to have imperfect hearing in one ear, while a still larger percentage were found not normal; 3. among the chidren of well-to-do parents the figures are more favorable than among those of the poor; 4. The percentage of defective hearing increases with age; 5. Country schools yield relatively better results than city schools. Most of those whose hearing had been found abnormal had never been subjected to any treatment, and many had no suspicion even of their failing, just as in cases of color-blindness. Not a few of these children had been considered and treated as "inattentive," and justice demands that in the future every "inattentive" child be examined with reference to its ears.—*Vienna Neue Freie Presse.—St. Louis Med. and Surg. Jour.*

On Ophthalmia Neonatorum and its Prevention.—Dr. Karl Grossman points out that the ophthalmia neonatorum may affect the eyes of a child born of a mother who has a vaginal discharge, not necessarily of the purulent character belonging to gonorrhœa or fluor albus. It seems, therefore, that before and during birth the secretions often acquire a character quite as infectious as that of gonorrhœal discharge, though they appear in no way different from the physiological discharge of the mucous membrane. He therefore directs that every child, without exception, whether of a healthy mother or of a mother suffering from leucorrhœa, should have the closed eyelids washed and cleaned outside with a two per cent lotion of carbolic acid as soon after birth as possible. When this has been carefully done, the eyelids must be inverted to complete ectropion, with exposure of the conjunctiva tarsi. Then, after carefully removing every trace of flaky secretion which may be found there, the conjunctiva must be inundated with the two per cent carbolic lotion for one or two minutes, care being taken that the lotion reaches every part of the conjunctival sac. This proceeding ought to be repeated thrice a day during the first two days of life. If the catarrh in the vagina of the mother has been very severe, a pad soaked in the carbolic acid should be applied to the eyes of the child in the intervals between the application of the lotion, and renewed every half hour during the daytime.—*Practitioner.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, April 1st, 1882.

Miscellany.

COLOR BLINDNESS.—We are in receipt of the following circular from Dr. B. Joy Jeffries, of Boston, Mass., which is of such general interest that we reprint for the benefit of the profession at large:

Resolutions adopted by the International Medical Congress, London, 1881, as to "tests of sight suitable to be enforced in the case of signallers and look-out men, and other persons by land and sea, with suggestions as to international arrangements for a uniform system of maritime, coast, and harbor signalling, with a view to the safety of life and property;" followed by explanatory remarks under the several articles.

A.—*With Respect to Land.*—(1) That the recommendations of the last International Medical Congress, held at Amsterdam in 1879, are accepted by the present Congress as forming the most suitable basis upon which every government may frame its own regulations as to its railway service. They are contained chiefly in Article XII. of the "*Projet d'un règlement pour l'examen des facultés visuelles du personnel des chemins de fer,*" laid before and accepted by the Ophthalmological Section of the Amsterdam Congress, which is nearly as follows:—

"For admission as *driver* or *stoker*, is required a healthy condition as regards habitual congestion, or irritation of the eyes and eyelids; *for each eye*, complete field of vision, total absence of cataract, or any other progressive disease; *for one of the eyes*, normal acuity and refraction, color sense at least three-fifths of the normal; *for the other eye*, sight of at least half the normal, as regards both acuity and color sense."

B.—*With Respect to Sea.*—(2) That in *sea-going ships* and in *all steamers*, especially those carrying passengers, there should always be in control of the helm a person possessing *with the two eyes together, without glasses*, normal sight, both as to acuity and colors; and that, *in addition*, in such ships, *at least one* of the persons actually on the look-out should be similarly qualified.

(3) That, in vessels engaged in the coasting trade, every person liable to take charge of the helm should possess *with the two eyes together, without glasses*, sight equal to at least two-thirds of the normal, both as to acuity and colors.

(4) That all persons engaged in marine signalling, ashore or afloat, and all pilots, should have normal sight, both as to acuity and colors, as defined in Article 2.

(5) That hypermetropic persons, although satisfying the requirements of Articles 2, 3, and 4, should, nevertheless, not be admitted, if before the age of eighteen they have a manifest hypermetropia of one dioptre.

(6) That reëxaminations should be made at the age of forty-five.

(7) That the examinations should be conducted by persons of recognized competency, under the direction of a Central Medical Authority in each country.

(8) That the international commission should be constituted, to fix upon such further measures as to signals as may be necessary for safe navigation, and, specially, upon the standard colors, and the sizes of the signals employed.

Explanatory Remarks. (*The Numbers Refer to the Resolutions.*)

A.—As to Land.—(1) The signal services on land, though quite as important, are not so purely an international matter as those having reference to the sea. Many countries have already established legislation in this respect, and others are introducing it by degrees. It is believed that the standards now recommended may be of general utility, especially in the case of conterminous countries. The mode of examination, for colors especially, is here, as at sea, of the highest possible importance.

B.—As to Sea.—It is obvious that regulations having an international character become every year more urgently required, from the increasing number, size, and speed of vessels.

In view of the practical difficulties with which all compulsory examinations are attended, it has been sought,—

(*a*) To limit the examination in each case to what is strictly necessary.

(*b*) To require them only when absolutely indispensable, and of the smallest possible number of persons.

(*c*) To simplify the methods as much as possible.

On large ships, many sailors not required for the helm, or to be responsible for the look-out, may be admitted without certificate of examination; but as it will be in the interest of all to be possessed of such a certificate, which would represent a higher competency, it may be expected that many would themselves seek for it, from whom it would not necessarily be demanded; and facilities for obtaining it should at all times be at hand in maritime ports.

(2) Good sight *without the aid* of glasses is required, because glasses fail to help just where clear sight is most needed, e.g., in storm, rain or fog.

Acuity of Sight.—Complete acuity is not more than sufficient, having regard to the increasing number, size, and speed of steamers, But it will be practically enough if at sea this complete acuity is attained by the use of *both eyes combined*. The number of persons excluded under this rule will be much less than if complete acuity for *each eye separately* is exacted.

The acuity is supposed to be determined by viewing letters or signs at a certain distance, under a certain angle, on the principle of the test-types of Snellen.

Color Sense is supposed to be tested by pseudo-iso-chromatic tables, on the principle of those of Stilling, subject to control by the use of light transmitted through colored glass, in imitation of signal lights. This control will also aid in detecting central scotoma for colors, in the very rare cases where it might co-exist with the required acuity.

Holmgren's excellent tests have been already extensively adopted. But their use demands more skill in the examiner. Tests well selected on the principle of Stilling might be very well adopted as standards for ascertaining normal color sense, as well as definite degrees of color sense below the normal. The principle of Stilling has been recommended as affording a quantitative as well as a rapid qualitative test.

(3) A lower standing is fixed in the coasting trade (excluding steamers), because the vessels are smaller and the speed less. Moreover, a demand for full acuity would render it difficult to procure a sufficient number of sailors; as each hand must be liable in small vessels to serve at the helm.

(4) It is obvious that the persons here named must have full acuity and color sense.

(5) Persons having a manifest hypermetropia above that here indicated would not possess at the age of thirty-five or forty, without glasses, the needful degree of acuity; it is better, then, both for themselves and the service, that they should not be admitted at all.

(6) The attendant practical difficulties have caused one re-examination only to be advised at the age of forty-five. It has been found that the very great majority of persons, once admitted as having good sight, have retained it up to that age. A great number, no doubt, have been admitted hitherto without sufficient examination. Still, it would not be practicable to institute a general examination of those already in the service. Nevertheless, it would be desirable to examine anew, in the case of passenger-steamers, all those responsible as helmsmen and look-out men.

The Congress recommends that surgeons of ships should be qualified to exercise special surveillance as to the sight of those employed in these capacities on board.

(7) A central medical authority is requisite to insure the perfection of the system and its uniformity. He should propose the examiners, and be responsible for their fitness. They should be men of ascertained competency, and, as far as practicable, qualified as medical specialists.

(8) The measures recommended in Articles 2 to 7 should be brought into operation without delay. But an international commission would still have to determine the precise color of the glass, securing uniformity in that as well as in the size and disposition of the signal lights.

The Congress lay the greatest stress upon the appointment of this commission in respect to marine signaling, as quite indispensable for the attainment of the object in view. The commission would have to inquire into, and decide upon, many matters on which information is at present incomplete, and regarding which only a few points have been touched upon in Article 8.

Every government, especially the maritime governments, should be requested to place one or more members on the commission, and chiefly experienced naval officers and medical specialists.

It is understood that this question of an international commission is about to be submitted to the Legislature of the United States of America, supported by a petition largely signed by scientific men of that country.

Action of the House of Representatives.—The Committee on Naval Affairs, to whom was referred joint resolution No. 24, relating to color-blindness and visual acuteness in persons employed in the navy and merchant marine, have considered the subject, and submit the following report:

At the last session of Congress this subject was brought to the attention of the House by petitions signed by numerous highly distinguished scientific men of the country. The Committee on Naval Affairs of that House gave the subject careful attention, and made a report, which we quote as the best presentation of our views which we are able to make. That report is No. 1569, Forty-Sixth Congress, second session.

Dr. B. Joy Jeffries, of Boston, who has devoted much time and study to this very important subject, and who has voluntarily, and at his own expense, done much to awaken interest in it in several of the States, and who by his disinterested efforts has induced many of the great railroad companies to adopt his system of examination and test for their employés, was invited to come before the committee and give his views upon the subject. He accepted the invitation and on the 23d day of January last he appeared before the

committee and illustrated the various methods which have been adopted in this country and in Europe for the detection of color-blindness, and the tests made use of to determine visual power and acuteness, and explained the importance of establishing by an international congress a universal system of examination and tests for these visual defects, and a standard of colors for signals at sea, to be used by maritime nations. An abstract of the remarks of Dr. Jeffries is hereto annexed as an appendix to this report.

The committee think the subject is of so great importance as to demand the attention of all maritime countries, and they believe that the action recommended by this committee will, if adopted by Congress, meet with ready response from the other nations, and that a system may result from it which will prove of vast benefit to the human race.

They recommend the adoption of the accompanying joint resolution as a substitute for that referred to the committee:

House Resolution 135.—Joint resolution relating to color-blindness and visual acuteness in persons employed in the navy and merchant marine.

Whereas it is important that definite and uniform standards of examination for color-blindness and tests for visual acuteness in persons employed in the navy and merchant marine should be established which shall be in harmony with such standards and tests as are or may be established by other nations: Therefore,

Resolved by the Senate and House of Representatives of the United States in Congress assembled, **That the President is hereby authorized and directed to appoint, by and with the advice and consent of the Senate, some suitable person qualified for such service, who, with one line officer of the Navy and one medical officer of the Navy, to be detailed or designated by the Secretary of the Navy, shall attend and represent the United States in any international congress or convention held by authority of law in any European nation to consider and act on said subject; and the sum of ten thousand dollars is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be used and expended, or so much thereof as may be needed, under the direction of the President, to compensate the person so appointed and defray the necessary expenses of the person so appointed and of the officers of the Navy so detailed or designated. And the person so appointed and the officers of the Navy so detailed or designated under the provisions of this act shall join in a report of the proceedings of such congress or convention, and of the conclusions reached thereby, if any, to the President, to be by him laid before Congress, to the end that an international system of examinations for color-blindness and tests for visual acuteness, and standards for colors for signals used at sea, may be established by law.**

THE FOURTH INTERNATIONAL CONGRESS OF HYGIENE.—Is to be held in Geneva, from the 4th to the 9th of September, 1882. The following communication is received from the managing committee:

Geneva, January 1882.

The third Congress of Hygiene, which met at Turin in 1880, selected Geneva, by acclamation, as the seat of the fourth Congress.

The Swiss Federal Council, the Genevese Councils and People, gratified by so flattering a decision, are preparing to welcome the hygeists, both Swiss and foreign, who may attend this scientific meeting.

The Congress shall meet on the 4th, and sit till the 9th of September, 1882.

The Geneva Committee, entrusted with its organization by the State Council, hope to make it worthy of its predecessors, the Congresses of Brussels, Paris, and Turin.

Supported by the Swiss National Committee, they appeal to all persons who, by their writings, their position or personal experience, strive to elucidate the theory of hygiene and to practice it.

With the assent of the International Committee of the Paris Congress of Demography in 1848, they have resolved that a *Demographic Section* shall supplement the Congress of Hygiene.

Let then the hygeists demographers of all countries prepare to bring to the Geneva Congress the contribution of their learning and labors.

They are invited, together with the Boards of Health, the Scientific and Sanitary Societies, to submit as soon as possible to the Managing Committee, the questions they may think worthy of treatment by the International Congress.

Several essays have been announced, and as soon as a full list of them shall have been obtained, the Committee shall apprise the public of their drift, calling special attention to the main points of investigation.

An exhibition of books, plans and instruments of all kinds concerning Hygiene and Demography shall be opened in Geneva on September 1st and last till September 30th.

Authors, inventors, manufacturers of every nationality are invited to give notice at their earliest convenience, of their intention of attending the Exhibition.

The Committee will endeavor to obtain a reduction of tariffs both for members of Congress and for the objects sent to the Exhibition.

***The Managing Committee:*—President; H. Cl. Lombard, M. D., Vice-President of the International Congress of Medical Sciences held in Geneva in 1877.**

Vice-President: J. L. Prevost, M. D., Professor of Therapeutics, Dean of the Faculty of Medicine.

General Secretary: P. L. Dunant, M. D., Professor of Hygiene.

Assistant Secretaries: D'Espine, M. D., Professor of Internal Pathology.—G. Haltenhoff, M. D., University Lecturer on Ophthalmology.

Members: V. Gautier, M. D., Head Physician of the Butini Infirmary. —M. Julliard, M. D., Sr., Ex-Medical Inspector of Public Health.—M. Denis Monnier, Professor of Biological Chemistry.—E. Rapin, M. D., Ex-President of the Medical Society.

***Important Notice:*— Manuscripts and prints that concern the Congress should be directed to**

Professor Dunant, M. D., General Secretary, Geneva.

THE RADICAL CURE OF CANCER.—*Announcement concerning Essays upon this Subject offered in Competition for Prizes.*

The undersigned, who, in October last, was delegated to receive competing essays on the subject of the radical cure of malignant disease, announces that three essays were presented. In the consideration of their merits the assistance of Dr. George B. Shattuck, Editor of the *Boston Medical and Surgical Journal*, was invoked; and it has been decided that no essay is worthy of a prize.

The same subject, namely, *The Probability of the Discovery of a Cure of Malignant Disease, and the Line of Study or Experimentation likely to bring such a Cure to light*, is proposed to be presented in competition not later than the first day of December, eighteen hundred and eighty-three (1883), to the undersigned, who, with such assistance as he may select, will be the judge of their merits.

For the best essay on the above subject a prize of ONE THOUSAND DOLLARS will be given, the right being reserved to withhold the prize in case no essay of sufficient merit be presented.

The sum above mentioned has already been deposited in the New England Trust Company, of Boston, subject to the call of the judges.

The essay must be legibly written in English, and neatly bound. Each one must bear a motto, and be accompanied by a sealed envelope bearing the same motto, and inclosing the name and address of the writer. They will all remain in the possession of the donor of the prize for convenience of reference, and the privilege is claimed to publish the successful one, with the name of the writer. No writer, however, surrenders the privilege of retaining a copy of his essay, and publishing it.

The decision concerning the merits of the essays will be made chiefly from a practical standpoint, it being the object of the donor of the prize to obtain suggestions by which a search for a cure of cancer may be instituted.

For the donor,

J. COLLINS WARREN, M.D.,
58 BEACON ST.,
March, 1882. BOSTON, MASS., U.S.A.

ADVERTISEMENTS.—There is no one subject in regard to which the profession are so incorrectly informed, as they are in regard to the advertisements in a medical journal. As has been said by a friend, in correspondence, the great fault in relation to medical journals, as observed by himself, is, that as soon as a medical journal obtains a large subscription list, it immediately carries a a very large number of advertisements. And his observation is that which the great majority of physicians would make, if interrogated on this subject.

Now the fact is that no greater blunder could possibly be made, and it is well to correct it.

If a publisher *decreased* the number of text-pages of a journal, as he *increased* the number of advertising pages, such a course would be dishonorable; it would be unjust to the subscrib and would render a journal unworthy of suppo But if he increases the number of advertisi pages, and does not lessen the amount of readi matter, such a course should be most welcome every reader, for it is an evidence that the jou nal is a success; that it is on a sure basis; th advertisers select it on account of its offering large circulation to themselves, and that the money is safely and judiciously invested. Bu more than all, a large advertising business largel increases the revenue of a journal, enabling it t offer increased advantages and attractions to it subscribers.

It is on account of its large advertising business that the *New York Herald* is constantly increasing the quantity and improving the quality of its reading matter; that its editorial corps is strong; that its contributors and correspondents furnish interesting facts from all parts of the world. Cut off its advertising department, and the *Herald* could not pay expenses.

The same reasoning is true in regard to the *London Lancet*, the largest and best medical journal in the world. In its present form it carries 32 pages of reading matter, and 48 of advertisements!! the largest proportion of advertisements of any medical journal published. Here advertisers seek a large, good, and well distributed journal. In turn they pay to it a large revenue, and this revenue is largely spent in securing, for its readers, the best medical matter to be obtained. Without this advertising support, the *London Lancet* could not possibly offer to its readers more than a mere fraction of the great advantages which they at present enjoy. In fact, the abrogation of its advertising department would so change the quantity and quality of the reading matter, that its best friends would no longer know the *Lancet*; would reject it and forsake it.

There is, then, no greater blunder than to object to a journal on account of its large advertising department: *the size of this department is the key to a journal's success and the index of its prosperity.—Gaillard's Med. Journal.*

INTERMITTENT FEVER CAUSED BY FLOWER POTS.—The practice of keeping plants in rooms the temperature of which is matained at a high degree says Prof. Crudelli, "is often disastrous to the health." Furnished as the flower pots are, with earth rich in organic matter the greatest facility is given to the malarial germs to proliferate. Altogether non-favorable opportunities for the development of malaria can scarcely be conceived. Crudelli cites the characteristic case of Mr. V. Eichnald. The latter had under his care a Russian Lady, who lived in a healthy climate where malaria was not common. This patient suffered from characteristic attacks of malarial fever which yielded readily to large doses of quinia. But the relapse supervened with remarkable and almost inexplicable frequency. Hardly had this patient recovered sufficiently to return to the dining room where the flowers overcame her as forcibly as ever. The presence of a large number of plants in the room finally attracted the attention of the physician.

When they were removed the fever disappeared permanently.—*Lyon Medicale, Dec.*, 1881.

The Ideal Office Boy.—A secular contemporary displays much of that knowledge of human nature which is so essential to financial, if not therapeutical success in the profession, in its description of a model physicians's office boy: A physician ought to be especially careful in the selection of an office boy. This servant should not be dressed in black, for that would be too suggestive, but in garments of neutral tints, the symbol of uncertainty. He ought not to be the possessor of a cadaverous visage, lest he give the impression that those who enter the doctor's office must abandon hope. Neither should he be florid and rotund, as though sickness was not a serious thing. He should occupy the golden mean between the grave and gay. He ought not, moreover, to be excessively truthful, lest he injure the practice of his employer. A stranger who had sudden illness at home once asked a physician's office boy: "Is the doctor in?" "No sir," was the quick reply. "Tell me, has the doctor many patients?" The servant became pale, but slowly and solemnly replied, "Not many living, sir." The stranger turned sadly away.—*Gaillard's Med. Jour.*

The Bone-conduction of Sound.—In the *N. Y. Medical Journal* and *Obstetrical Rev.* for February, 1882, Dr. J. A. Andrews, Assistant Surgeon to the Manhattan Eye and Ear Hospital, gives an account of his investigations in regard to the intermittent perception of sound as conveyed through the cranial bones, the observations having been mostly clinical, largely with the use of the tuning-fork. In order that an explanation for the phenomenon of intermittent bone-conduction may be understood, he thus formulates the points in differential diagnosis between an affection of the middle ear and one of the labyrinth, as evidenced by examination with the tuning-fork: 1. If a vibrating tuning-fork, c, be placed between the teeth, the hearing power being normal on one side and diminished on the other, and its tone be intensified in the ear of which the hearing power is diminished, the cause is seated in the external or middle ear and the labyrinth is unaffected. 2. If the hearing power be impaired in both ears, and the sound of the tuning-fork be heard better in the worse ear, and intenisfied on closure of the ear of which the hearing power is most impaired, the cause is still located in the middle ear. 3. If under either of the above-mentioned conditions the vibrations of the tuning-fork be not heard in that ear of which the hearing power is most impaired, even if its meatus be closed with the finger, and middle-ear disease as a cause can be excluded, there is an affection of the central apparatus of hearing. If the tuning-fork be still intensified by closure of the ear of which the hearing power is least impaired, there is disease of the central apparatus on one side only. Should the sound of the tuning-fork not be intensified by closure of either ear, then the disease is in both sides, and has its seat in the labyrinth or in the brain.

In the first and second propositions the increased resonance results from the reflection of the vibration from the cranial bones upon the nerve. In the third proposition the reflection or condensation of the vibrations of the tuning-fork upon the nerve when the meatus is closed does not intensify their perceptions, because the function of the auditory nerve itself and not that of the conducting apparatus is impaired. The peculiarity that in some cases of the middle ear disease the watch is not heard by bone-conduction, and in other cases examination with the tuning-fork gives the signs of labyrinth disease—i. e. the tuning-fork being heard by bone-conduction better in the ear which is normal as to hearing power, therefore diminished instead of increased in the ear of which the hearing capacity is impaired—can not, it seems to him, be explained by assuming an interference with the conduction through the chain of ossicles. He inclines to the belief, based upon experiments, that this phenomenon is due to increased intra-labyrinthine pressure, brought about in those cases of middle-ear disease in which there is an accumulation of fluid in the tympanum, or the membrana tympani is much depressed, in the former instance by the fluid in the cavity acting on the oval or round window, or both, and in the latter instance by the plate of the stapes being forced against the membrane in the oval window. In both cases the terminations of the acoustic nerve suffer a mechanical irritation which gives rise on the one hand to subjective noises in the ear, and on the other hand annuls the perception of certain tones. Extreme pressure upon these parts may so interfere with intra-labyrinthine vibrations as to completely obliterate bone-conducting for the tuning-fork.—*Louisville Med. News.*

A Novel Remedy.—Your correspondent was called lately to see a boy of ten who was reported to be suffering from attacks of epilepsy. On arriving at the house he found the child sitting up in bed apparently in perfect health. The mother attributed the happy condition of her son to the treatment she had adopted, which for the benefit of your readers I will give in full. A live cat was caught and killed, the head taken off, and the belly opened down the whole length; the intestines were extracted, and then both halves were, all smoking and hot, applied to the stomach and left *in situ* for twelve hours. However, the mother said that the poor cat smelled so awfully (I should think it did) that it was with the greatest difficulty she persuaded her son to keep it on the prescribed time. This odour was, however, by no means attributed to the cat by the parent, but to the disease. I may add that the convulsions were excited by the presence of worms, that a dose of *Kousso* soon expelled.—*Medical Press and Circular.*

Nits in the Hair.—From the London *Lancet* we note the two following methods of removing nits from the hair:

1. Apply spirits of wine freely, so as to dissolve the glue which attaches the nits to the hair, and then wash them away with soap and water.
2. Apply to the hair rather a strong decoction of larkspur seeds (Delphinium staphisagria).

This will kill the parasites very quickly. Wash the head with carbolic soap, after two or three days. The nits will then readily come away by brushing and combing.—*Med. and Surg. Rep.*

THE Regulation of Prostitution is better in England than in any other country; of the 40,000 prostitutes in Paris 36,000 are clandestine; beyond the control of the inspectors. The whole system there is one of anarchy while in England it is harmonious and efficient. The world does move.—*Gaillard's Med. Journal.*

ACCORDING to M. Paul Bert (*Journal de Therapeutique*) special venoms are secreted by the toad, salamander, newt, frog, &c. From the glands on the neck of the frog he has collected a liquid which, if injected into a sparrow, occasions death with convulsions, the heart being arrested in systole.—*Medical Press and Circular.*

IN filling the position of surgeon to the Great Western Railway, England, a position worth six hundred pounds per annum, the authorities were obliged to make a selection from over six hundred candidates.—*Boston Med. and Surg. Journal.*

BUSINESS NOTICES.

COATED PILLS.—Of all the different methods of making pills tasteless by means of coating the sugar and gelatine coating has been found to be the best.

It has been said that pills must be dried out to allow a coating of sugar, and that is partly so, but drying out is necessary to keep the pills from spoiling and moulding.

Suppose pills are coated while soft they *must be dried out after coating* or else they will spoil and cannot be kept in stock.

The case stands so:

If the coating of gelatine has to be done by means of needles pills cannot be coated if they are hard, and therefore *must be coated while soft*, but must be dried out after coating, while pills to be coated with sugar can be dried out *before* coating and thus do not need drying out afterwards.

If the pills would be kept in stock without having been dried out they would become mouldy and would spoil. We can have pills which remain soft and do not become moldy but such pills have been made by adding grease to the pill-mass. If the proper excipient has been used, hard dried out pills may dissolve quicker than soft ones.

To prepare a pill-mass properly for making pills in large quantities, without resorting to means which should not be used, a long experience is required. Of such pills to be found in trade, which have been properly prepared according to theory and practical experience, we should mention the pills prepared by W. R. Warner & Co., of Philadelphia. These pills are soluble, can be kept in stock without spoiling and are always of the same nice appearance and uniformity. — *Apotheker Zeitung*, New York, March 15, 1882.

Bibliography.

ELLIS' "ILLUSTRATIONS OF DISSECTIONS."[1]

The contents of these two volumes refer to certain regions of the body in which surgeons are especially interested, viz., the head and neck, abdominal parietes, perineum, pelvis and extremities.

The value of the work is enhanced by the fact that the dissections of the extremities constitute more than one-half of it. This feature alone ought to bring it into general use as a book of reference, for no regions of the body are more often brought under the surgeon's care than those of the extremities.

The text is illustrated by a series of chromo-lithographic engravings, fifty-eight in number, every plate of which is fully explained and each one a fac simile reproduction of what was originally of life size. This is a prominent feature and a peculiarity of the work.

It is plainly manifest that the author has spent a great deal of hard work on these dissections. The regions have been examined very minutely by him and his aim has been to illustrate the application of anatomy to surgery. Every section contains more or less of what is understood as regional and surgical anatomy.

The writer has given instructions for many of the current operations which the general practitioner is called upon to perform and teaches many practical lessons, in telling what to do, how to do, and what not to do.

The volumes compare favorably with the written teachings of regional anatomy and will assist all who have been faithful to their early anatomical studies.

Readers will recall their knowledge of surgical anatomy by a reference to the chromo-lithographic plates. C—Y.

FOWLER ON "SUPPRESSION OF URINE; CLINICAL DESCRIPTIONS AND ANALYSIS OF SYMPTOMS."[2]

This little monograph of eighty odd pages begins with the report of a case of anuria in the author's practice, in which on autopsy the left kidney had wholly disappeared and was substituted by a cyst. Section Second consists of a table of cases of anuria from renal calculus, scirrhus and from scarlatina, cholera, hysteria, spinal irritation, trauma, etc. The remaining Sections discusses the symptoms associated with the anuria. The records seem to be all accurately made, and the whole tract is a useful contribution to the subject.

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[1] A Series of Original Colored Plates. By Prof. George Viner Ellis, of University College, London, Eng., and G. H. Ford, Esq. (Reduced in a uniform scale, and reproduced in fac simile, expressly for "Wood's Library of Standard Medical Authors.") Two volumes. New York: Wm. Wood & Co. 1882.

[2] By E. P. Fowler, M.D. Paper presented to the New York Medico-Chirurgical Society, December 14, 1880. New York: Wm. Wood & Co. 1881.

Original Communications.

DYSMENORRHŒA: AN INQUIRY INTO ITS SO-CALLED MECHANICAL NATURE.

By C. D. Palmer, M.D.,
Professor of Medical and Surgical Diseases of Women, Medical College of Ohio.

It is not my intention to take up the whole range of the subject of dysmenorrhœa, I will dwell only on some of the more important points in its pathogenesis. Painful menstruation is acknowledged to be one of the most frequent of the diseases of women, so frequent that there is no general practitioner who is not called upon to treat it. Its frequency, together with its far-reaching effects, immediate and remote, are a sufficient apology for introducing the subject.

Menstruation in perfectly normal conditions of the body, both local and general, while it may be attended with certain phenomena, as slight loss in weight, diminution in temperature, diminished physical and mental energy, *should be*, and I believe *is*, *painless*. True, so distinguished an authority as Emmet says: "Every woman, even in health, will experience at least some degree of discomfort at the menstrual period; that she should be absolutely free from pain and suffer no inconvenience at this time is an abnormal condition," a statement which is absurd, for it implies that a natural function is always performed unnaturally, that is, painfully.

Modern authorities, now, generally divide dysmenorrhœa into ovarian and uterine, the latter being sub-divided into the neuralgic (including the rheumatic), the congestive, the inflammatory, the membranous and the obstructive. Some contend that all forms are obstructive. Simpson, who was a firm believer in the mechanical origin of many cases of dysmenorrhœa, and who first recommended dilatation of this variety by means of the knife, a practice which through his influence was promulgated throughout the world, by no means believed in the exclusive mechanical theory. This very division, to which reference has been made, and which to-day stands with the strongest acceptance, he advanced. Sims, however, who has followed largely in Simpson's wake, contends that all painful menstruation is obstructive.

Thomas, very judiciously, takes a comprehensive view of the pathogenesis of the disease, by saying that it may depend upon general or local diseases, the latter being some abnormal condition, congenital or acquired, of the ovaries, uterus, or other pelvic tissues. Under this acceptation, the presence of pain in any of the pelvic tissues at the menstrual time, implies dysmenorrhœa, although the uterus itself may not be the offending organ.

Barnes says: "The one essential condition of dysmenorrhœa is retention of the menstrual secretion." Again, "Mechanical obstructions to excretion are the most important factors in dysmenorrhœa."

Graily Hewitt says: "The cause of pain is the subject of much dispute, but of late years, the balance of opinion has been strongly in favor of the view that dysmenorrhœa is the result of obstruction to the escape of the menstrual flow."

Atthill doubts whether mechanical obstruction is so frequent a cause of dysmenorrhœa as some suppose, nor can he admit the correctness of Sims' views."

Duncan takes more decided grounds against the mechanical doctrine. And Emmet is no believer in it. Says the latter: "Mechanical dysmenorrhœa is a myth, for what is known by that name almost always depends upon defective nutrition somewhere beyond the uterus."

These authorities are referred to in order to show that they are by no means agreed as to the causes and pathogenesis of this disease, and more particularly, as to the frequency, constancy, or degree of obstruction (if any) in the uterus.

In the light of modern gynæcology and with the present facility for thoroughness of physical pelvic exploration, it would seem no one can doubt that in a certain proportion of cases, obstructions in the uterine canal do exist, and that these may serve to create pain in menstruation. But to what extent? is the subject of the inquiry of this paper.

Abnormities of the uterine cervix, congenital or acquired, with stenosis, are by no means uncommon. Of the congenital form, notably, there is the elongated and conoid infra-vaginal cervix, with the "pin-hole os"; of the acquired, that arising from chronic inflammation in any of the tissues, and especially that resultant on the vicious use of certain caustics. The stenosis is sometimes very great; there may be complete occlusion. It is a matter of dispute as to whether these stenoses are most frequent at the external or internal os. Barnes contends that it is at the first. Omitting obstruction at the internal from flexion, it is safe to say that the region of the external os is by far the most frequent seat.

Some standard of the average size of the cervical canal is usually accepted, and Tilt has ventured to say: "Where the cervical canal will not let an ordinary sound pass through it easily, the cervix should be dilated or divided," but as the size of the canal, like the quantity and duration of the menstrual flux, is a matter relative, and not absolute, a much better evidence of obstruction is obtained, when immediately following the withdrawal of a small sized sound, there rolls out pent up secretions and menstrual fluid.

The connection of dysmenorrhœa and sterility with the congenital, conoid malformation of the cervix, is a matter of quite common observation. What proportion of women who have this deformity, and who do not suffer with dysmenorrhœa, and who subsequently become pregnant, it would be difficult to estimate. Such cases do not come under the observation of the physician, unless accidentally. Those who remain sterile, and who on account of their anxiety for offspring seek advice, are far from numerous.

Quite usually, it is not a difficult task to give relief to the dysmenorrhœa associated with these conditions. Dilatation in some way, preferably by incision, is successful for a time at least, and the result of the treatment tends to strengthen the diagnosis of the mechanical origin of the disease. With less certainty, stenoses by curvature exist along the cervical canal, and especially in the region of the internal os, from flexion, which, if anterior, is ordinarily congenital, and if posterior, it is acquired. Graily Hewitt thinks this is the most common cause of dysmenorrhœa.

Besides, there are narrowings and tortuosities of the uterine canal, from the presence of intrauterine and interstitial fibroids, either on account of their size or location. Membranous dysmenorrhœa, if any, is a clear sample of impeded menstrual flux, for so soon as the false membrane is expelled the uterus is at rest and pain is relieved.

Under all these circumstances, the seat and the kind of pain, resembling the throes of labor, the duration, intermission of the flow, may be more or less characteristic. Such pains are called expulsive, for the uterus is struggling to overcome a resistance, and to expel its contents.

There is a tendency in the medical mind to narrow the pathology of every disease to within the smallest possible limits, for on such a basis the erection of a plan of treatment becomes correspondingly plain. Views, although narrow and one sided, faulty in theory and pernicious in practice, when advanced by men of marked ability and prominence, almost necessarily meet with a speedy adoption on the part of the profession.

In 1832, Macintosh of England, conceiving the notion that all dysmenorrhœa was mechanical in its origin, introduced a practice of dilating the uterine canal to overcome the seat of obstruction. Reporting on the practice, he declared that out of twenty-seven cases so treated, twenty-four were cured. Our eminent countryman, Sims, has for a long time promulgated similar views, laying it down as an axiom that "there can be no dysmenhœa, properly speaking, if the canal of the neck of the womb be straight, and large enough to permit the free passage of the menstrual blood." And again, "dysmenorrhœa is simply a symptom to be found in some abnormal organic condition."

No theory of painful menstruation has been more prominently brought forward than this, and, as has been stated, not a few authorities coincide in it.

But to come back to our inquiry: To what extent, and in what way, is dysmenorrhœa obstructive?

Recognizing the different varieties as descibed by Simpson, Thomas and others, we can understand how that in a certain sense all of them (but not all cases) may be attended with some temporary narrowing of the canal. The neuralgic by a co-existent spasm of the internal sphincter of the uterus; the congestive and inflammatory by a swollen endometrium, clots of blood, or displacement of the organ. The neuralgic may become congestive and conversely. But to regard all dysmenorrhœa as practically obstructive is not only erroneous in theory but pernicious in effect. There is another and more important element to be recognized in a large proportion of all cases and varieties of this disease. For the following reasons I would objec to much of the mechanical doctrine.

A want of uniformity between the seeming causative lesions or abnormities and the manifestatio of symptoms, as:

1st. Instances of dysmenorrhœa in which th pain varies as to seat, time of occurrence an duration, where no abnormal condition of th uterus, ovaries, or any pelvic tissues, on the mos thorough exploration, can be made out. Th sound passes without difficulty, still the pain ma be intensely severe.

2d. Instances in which there are well define abnormities of the uterus in the form of pin-hol os, the elongated cervix, contracted canal, flattened and ill-developed body of the uterus, congenital anteflexion, etc., and no dysmenorrhœa.

3d. Instances of stenosis of the os externum o marked kind and degree, the result of chronic inflammation. or the vicious use of caustics, and no menstrual pain.

4th. Instances of well-defined acquired flexion of the uterus, and no dysmenorrhœa.

5th. Instances of stenosis of the os and cervical canal associated with dysmenorrhœa, where treatment of a surgical nature proves successful in the removal of the former, while temporary or no relief attends the latter.

6th. Instances of large patulous canal of the uterus, and dysmenorrhœa.

The *degree* of pain suffered is subject to great variation. As membranous dysmenorrhœa is a clear sample of mechanical pain, it might be expected it would be the most severe. It is not so however, for pain is not unfrequently the most intense and even unyielding when there is no obstruction. It is well known that painful menstruation is not a very common or prominent feature in many of the organic affections of the uterus.

So the *seat* of pain may vary, changing from the uterus itself to the back, the head, or the knee.

The *time* of its appearance is often the day preceding the flow; more generally it is the first day, or it may continue throughout. In very many cases the pain is in a great measure relieved by a full establishment of the discharge.

Nor is the pain uniformly regulated or modified by the *quantity* of menstruation. While present under the most opposite circumstances, if there is any rule in reference to this matter, it is that the more scant, delayed, or interrupted the flow, the greater the pain.

Moreover, those agents, notably the ferruginous tonics, which promote and increase menstruation, are effectual in the treatment of dysmenorrhœa.

Again, painful menstruation, may, without treatment, entirely disappear for a number of months to return again.

It has often been claimed that the benefits obtained by dilatation with bougies and cutting instruments prove conclusively the obstructive nature of dysmenorrhœa. The argument is faulty. Experience shows that such results are by no means uniform, and if they were, other explanations, equally plausible, are not wanting.

The occurrence of dysmenorrhœa with flexion is generally ascribed to obstruction and retention. That there is obstruction in some cases admits of no doubt, but the inference that the painful menstruation is as uniformly resultant on this condition, is fallacious. Emmet has well pointed out the difference in the seat, pathological importance and treatment of flexions, as to whether they exist in the cervix or above the vaginal junction. As a matter of fact, as stated by this distinguished authority, the angle of the flexion at the vaginal junction is more *acute* than in the uterine body, but dysmenorrhœa is relatively much less frequent, although the obstruction is probably greater. It has no doubt occurred in the experience of most gynecologists, to witness the fact that treatment has relieved one of these conditions without any change to other. Ordinarily, the dysmenorrhœa has yielded first.

Dr. Hermann recently read before the London Obstetrical Society a paper of more than usual merit, showing by a careful analysis of the facts that the relation between anteflexion and dysmenorrhœa is not that of cause and effect, but merely of coincidence.

Emmet adopts the theory of Rouget, that the cause of the absence or abatement of pain of menstruation in flexions, is that the influx of blood to the organ partly straightens the axis and reduces the stricture.

It is not unreasonable to attribute the painful function of menstruation co-existing with versions and flexions, to the chronic congestion accompanying, very often antedating, sometimes resulting therefrom, for such measures as are most successful in diminishing local blood supply and tenderness of the organ, no attention it may be paid to a change in its position, and none following,—are most efficacious in curing the pain.

The above are some of the arguments which tend to render the mechanical theory irreconcilable with the clinical facts.

If, then, there is no definite relation of painful menstruation with the uterine condition, as, for instance, found when there is no organic uterine disease; absent or present with various malformations of the organ; present when the uterine canal is patulous, though not so frequently as when it is diminished in size; sometimes relieved by a removal of these abnormalities, and again little, if any, changed thereby; and, in by far a greater proportion of all cases, present where no organic obstruction whatever is detected, the inquiry arises what is the nature of dysmenorrhœa?

The extreme sensitiveness of the inner uterus on the introduction of the ordinary sound, commencing at the region of the os internum, in many cases of this disease, is a matter of common observation. A slight discharge of blood sometimes follows this method of exploration, although carefully done. The inference is that there is some congestion of the endometrium. But the pain produced is not a result of this condition alone, being out of all proportion to it. Its character is described by patients as identical to that experienced during menstruation. The sentient nerves of the endometrium are in state of hyperæsthesia, neuralgia. Under such circumstances, and at a time when the uterus is at its greatest functional activity, at the height of its physiological congestion, its mucous membrane swollen, and blood is being exuded within its cavity, pain is provoked only in accordance to that law manifest elsewhere in the body, the stomach, the bladder and brain. Painful menstruation thus presents features very analogous to other visceral neuralgias. Dysmenorrhœa is a functional disorder of the uterus, and in its essential nature a *neurosis*. Associated or not with its organic diseases, sometimes developed, more often indeed, aggravated by them, the neurotic feature is the principal and only one in most cases, and is manifested to a greater or less extent, in all.

As the cause may be local, more often it is general. The local neurosis may be an out growth of some disordered state of the nervous system, a neuralgia, neuræsthenia, etc., as well as certain blood states, anæmia, rheumatism, gout, etc. The temperament of the dysmenorrheic is generally highly sensitive. We would say there is special susceptibility to pain, extensive in character, at times subjective, a penalty of a poor inheritance, a bad hygiene, forced education, and the false stimulus of our modern life.

A want of general development, unquestionably, predisposes to this neurotic habit. It is a rational inference to regard the painful menstruation, so often connected with ill-developments of the cervix referred to, to be dependent on a corresponding defect in the corpus uteri, although the measurement by sound may not be below the normal standard. Possibly, the presistency of sterility in cases of this kind, after surgical relief to the stenosis, is explicable on the ground of this assumption.

Several authorities, Duncan prominently among the number, have described what is called "spasmodic dysmenorrhœa." It is said that the irritation of the sentient nerves once started, is transmitted to the cord, reflected back by the motor nerves, resulting in a spasm of the circular fibres. The idea is not new. Long before the time of Bennet, who accurately defined the internal sphincter of the uterus, the doctrine was advanced. The contractions, either tonic or clonic, are supposed to exist, partly because the uterus in certain conditions (fibroid infiltration), does undergo such action, and partly because of their seeming analogy to the spasm of the bronchial tubes in asthma, the rectum and anus in painful states of that organ.

This form of dysmenorrhœa has been confounded with the neuralgic, and these spasms, it is not unlikely, do sometimes occur.

In conclusion, a study of the clinical facts, proves, I think, that the mechanical theory of obstruction, as underlying all painful menstruation—a doctrine so popular with some, an acceptation of which inevitably leads to wrong and dangerous methods of treatment—is untenable.

To repeat, *there* is such a condition as obstructive dysmenorrhœa. It is, however, comparatively rare. Many obstructions in the uterine canal are only *seeming* and *not real;* at least there is little, if any, impediment to menstrual discharge. The painful function more frequently has antedated the seeming obstruction, or expresses some other morbid state, congenital or acquired.

We ought not to lose sight of the fact that the element of pain, *per se*, may become a direct means in the production of serious organic mischief. Every attack of pain, a matter relative to each individual constitution or state, is a blow struck at the nervous system at large, and the uterus in particular. Neither can escape unhurt. The tendency, then, is for the disease in its course, to develop new factors and conditions.

BOVINE VACCINATION.

By W. O. Smith, M.D.

During the recent prevalence of smallpox in our midst it became my duty as physician to the Cincinati Infirmary to see that the inmates were properly vaccinated to prevent introduction of smallpox into the house. Medical men, Boards of Health and medical societies have all fully and freely asserted their convictions to be in favor of thorough vaccination whenever there is a threatened epidemic of this dread disease, and that it is a duty to vaccinate, not only in cases of young children, but also to revaccinate adults. Not wishing to neglect any of my duties as physician to an institution where over six hundred aged and infirm are kept, besides many young persons and children of different ages, imbeciles and epileptics, I concluded to promptly attend to that duty. The infinitely small proportion of cases in which syphilis has been communicated by vaccination, has, in my opinion, led to an unfounded prejudice against the employment of humanized virus and has created a demand for bovine virus to be used exclusively. Acting upon the popular idea, in the discharge of my duty to the persons under my care, I procured a quantity of bovine crusts from a reliable house in this city, said to have been sent from one of the best and most skillfully managed "vaccine farms" in the West, and proceeded to vaccinate those of the house whom I considered the most in danger.

Over twenty-five infants and children, comprising all within the nursery, then a portion of the male and female adults from each ward were vaccinated; within eight days two hundred and fifty were subjected to the test of vaccination. Wishing to note the results in these cases, I ceased vaccinating, intending to resume the operation from time to time until all were protected. The seed was sown in this number and in many cases upon "soil" that was impoverished and unclean.

It is conceded that a good vaccination is equal to smallpox in its protective powers. My experience in two hundred and fifty cases, alluded to above, in which bovine virus was used, almost convinced me that it is as great an evil as smallpox itself in a *mild form*, especially if performed on persons aged, infirm, scrofulous or syphilitic.

My reason for discontinuing the operation before all were vaccinated was, the result in the cases already under the influence of the vaccine being so severe as to give rise to fears that there would not be a number sufficiently well to care for the sick and disabled. In a large majority of the cases vaccinated it proved not merely a "local sore" on the arm, but a *specific disease*, and no doubt became complicated and aggravated by disease already within the system of the person vaccinated. About thirty of the number mentioned suffered seriously from attacks of chills followed with fever, nausea and severe headache. In the latter stages of the vaccination there appeared severe inflammation extending over two-thirds of the arm and in nearly every case, of about thirty in number, this was attended with diffused subcutaneous abscesses which, when opened discharged large quantities of pus.

At the point of insertion, in at least half of the whole number vaccinated, more or less sloughing occurred, and in many of them the sloughing was deep and extensive, requiring many weeks to repair by granulation. I had under treatment within the last month thirty of these cases of erysipelas, which were characterized by being ushered in with a chill, followed with a fever and other constitutional disturbances and attended by subcutaneous abscesses, ulceration and sloughing of the part vaccinated, requiring close and careful attention for several weeks until relieved. These cases have convinced me that vaccination with bovine virus is not a simple and harmless operation, but one of great responsibility, often attended with serious and troublesome complications, ending sometimes in death. Either one of the thirty cases of erysipelas above mentioned was of sufficient importance to give full and complete history of from day to day, but the time for preparing this paper is too limited to allow of more than a bare mention that the cases occurred and to give some of the more interesting symptoms that were manifested.

Malignant Case of Erysipelas. —One case of erysipelas resulted in death, I will not say vaccination was the cause of its developing, as the disease was already prevailing in the house and in the nursery, and abrasions or excoriations already existing might have been the point of attack and caused it to develope and result the same. This case was a female monstrosity, aged 17 years, who had never uttered a word or shown any signs of intellect; with a large head, unclean scalp, open sutures, tongue protruding, and altogether with the appearance of an animal more than of a human being. I had objections to introducing virus into the arm of this subject with excoriations about the neck and head and other evidence of disease. She was in the midst of other children and with numbers coming in every week, it became necessary that she should be protected in order to protect the other children and the virus was accordingly inserted.

The virus "took well," and from a continual rubbing of the arm at the point of vaccination, a month after insertion, erysipelas set in above the point and over the shoulder. It was impossible to prevent her injuring the arm by rubbing and erysipelas was the result. This inflammation rapidly extended to the back, chest and limbs, until the whole surface of the body, from the "sole of the foot even unto the crown of the head," was one fiery sheet of inflammation. She could make no complaint, except an occasional outcry when moved, never having spoken a word, and of course unable to tell her sufferings. Temperatere ranged from 104° to 105°, with rapid respiration before death, which occurred in six days from the attack. Every effort to sustain this patient and to procure results from treatment failed. The case was malignant and rapid in its course and termination.

As regards the value of the bovine virus compared with humanized, I am decidedly in favor of the humanized, and, if satisfied of the health of the child from which taken, will in future always use it. Assuming that bovine virus is equal to humanized in its protective powers, I would prefer the humanized, because the pustules formed are not so large in size and not so long in development or period of coming off as bovine virus, and not attended with such dangerous complications. An experienced practitioner can tell by the formation and development of the pustule of vaccination in the healthy child when true and not spurious bovine lymph has been used as a start for the propagation of humanized virus, but he cannot always determine whether or not the crust or scab taken from the cow is *true* or *spurious*. If it proves to be true virus it is undoubted protection, if not true, it produces a sore and often serious trouble without affording the least protection. Edward Jenner wrote in his "Origin of Vaccine Inoculation," that "matter may be taken from the cow that is genuine cow-pox, at not the proper stage, and thereby will lose its specific qualities," yet capable of making a sore; then as it is so exceedingly difficult to detect pus in bovine lymph, even by the best experts known, and also to determine whether or not the stage of the bovine crust is correct. Why not use the humanized virus where the risk and danger is not so great? For the past half century or more humanized lymph has been used by the old practitioners in our profession, and by those of us of twenty or thirty years experience who have used it, its success and triumphs cannot be denied. Then why not continue its use and avoid many of the troubles mentioned from the use of uncertain bovine virus? It performed its work well and safely in the past, and we should not discard it now unless satisfied that its origin is bad.

In conclusion, I ask if the attending disease, erysipelas, mentioned as having occurred with vaccination in the number of cases in the City Infirmary was not greatly increased or caused to spread from having to treat the patients so affected in crowded wards? All malignant or contagious diseases occurring in this house have to be treated in crowded wards, altogether, instead of having a properly constructed building or hospital so much needed. The guardians of the poor should as soon as possible provide one, ample in size and so arranged as to have a portion isolated for the reception of this class of disease, then the danger could be prevented of spreading such contagious diseases over crowded wards as in the present instance.

I am satisfied that a malignant case or cases of erysipelas, as herein described, would not be admitted to the general wards of any of our admirably kept and skillfully conducted hospitals of the city. It is then the duty of our authorities who vote the appropriations of money to provide that protection over the sanitary condition of the poor under their control, whether in the city where live the most abject of our population, or within the walls of the Infirmary. I believe that a hospital building properly planned and judiciously arranged, with one portion isolated exclusively for contagious diseases, and under the control of the directors of the City Infirmary is an improvement and addition that cannot longer be dispensed with. Discomfort and actual suffering as now arranged constantly occurs to the sick and infirm inmates of the institution for the want of this much needed and proper place of treatment.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of March 20, 1882.

J. L. CLEVELAND, M.D., *Pres't in Chair.* W. H. WENNING, M.D., *Secretary.*

Dysmenorrhœa.

DR. C. D. PALMER read an interesting paper on the above subject. (See page 295).

DISCUSSION.

DR. REAMY said he would open the discussion simply to call out further remarks from other members, and therefore would confine himself at present to the review of two points brought forward by the essayist. In the first place the essayist goes rather too far in maintaining that it is absurd to say that suffering does exist in menstruation while a woman is in perfect health. Both Thomas and Emmett are quoted as stating that there is often more or less pain. To this view the speaker subscribes. Clinical observation proves it. It is equally absurd to hold that a physiological process like menstruation must not be attended with pain simply because it is a natural process. This is the foundation of the whole subject. The question might be asked is it physiological for a woman to bear a child and suffer pain? Is not Barnes right in saying that conception, gestation and parturition, collectively considered, are the highest test of women's mental and physiological organization? It is true a few women do not suffer pain during the menstrual period from the contraction of the uterus, the pressure on the nerves or from other ovarian activity—(for the ovaries are chiefly concerned in the menstrual molimina, all the other organs being only appendages to the ovaries), but these are exceptions. The great majority of women suffer pains during the catamenia. The law of contraction dwells in the muscular tissues of the uterus. These tissues do not always wait for the new growth of gestation before they can execute this law, but under the nervous and vascular stimulation alone it is executed during menstruation, at least to an extent to cause suffering, but it is not disease. Every preparation for menstruation lasting from the close of the menstrual flow to commencement of the next, he regarded as the analogue of gestation. And any normal menstruation as closely imitating parturition in many features. More or less suffering is the rule, freedom from pain the exception.

He would repeat the statement, that it is just as logical to argue that a labor characterized by pain is therefore an unnatural labor as to argue that menstruation is unnatural, attended with diseased conditions, because slight suffering must be endured. Of course he would not be understood as applying these remarks to cases attended by great suffering, nor those manifestly associated with constitutional or local disease.

In the second place, the essayist maintains that membranous dysmenorrhœa is a typical form of mechanical obstruction. In the speaker's opinion this point is not settled. He had seen cases where the blood discharged was copious in quantity, sometimes even amounting to hemorrhage and ultimately the membrane was discharged with but little flow. All this proves that the mechanical obstruction can not have been very great. The free discharge of blood before the expulsion of the membrane proves that the membrane does neither by remaining upon the uterine wall prevent the escape of blood into the uterine cavity, nor at this stage does it plug the os so as to prevent the escape of blood already within the cavity through the os. Notwithstanding this, he would freely confess that the membrane does, when detached, act as a foreign body, stimulating the uterus to contraction for its expulsion, often inflicting the most excruciating pain—pain which may be intensified by the perverted nervous state associated with this form of malnutrition. He could not therefore consent to the statement of the essayist that "membranous dysmenorrhœa is typical obstructive dysmenorrhœa."

Dr. Davy said he had not been so fortunate as to listen to the whole of the essay, but from what he heard, he agreed with the essayist in the denial of mechanical obstruction as the sole and the only cause. We must also consider the nervous and especially the vascular supply as factors in dysmenorrhœa. It is becoming more and more the belief that the ovaries are the central figure in menstruation and all the other parts are only accessories. The circulation as well as the nervous supply of the ovaries come from parts high up; the nerves passing to the ovaries and upper partof uterus arising from what is called the midrenal region,the blood reaching the uterus from two sources,one supplying the neck,the other the body,so that in various conditions(anteflexion) we may have a perfect circulation regardless of an apparent constriction somewhere about the cervix or internal os.

As regards membranous dysmenorrhœa he had little to say because he had not met with a single case in his practice. It is usually regarded as the most troublesome form of painful menstruation.

Inflammatory dysmenorrhœa, acute as well as chronic, especially the latter, when depending on an inflammation of the ovary or its appendages entails not only bearing down, expulsive pains but all the wandering symptoms met with in uterine disease.

The speaker had also noticed a sympathetic condition of the breasts,a stinging or burning pain in the nipple, varying in intensity according to the severity of the attack of dysmenorrhœa.

Dr. Whittaker observed that the remarks hitherto made seem to establish with remarkable unanimity of opinion, that most forms of dysmenorrhoea are of nervous origin. He as a general.practitioner had not given much attention to the gynecological literature of late years, and all his remarks would therefore be based on clinical experience alone; he was therefore agreeably surprised to notice that the specialists have profited by an experience which confirmed that of the practitioner. The majority of cases of dysmenorrhoea are, as the essayist has stated, are not due to obstruction and if treated on this plan no cure can be expected.

This does not, however, exclude the possibility of mechanical dysmenorrhœa, but cases that fall in this category are exceptions. Most of the speaker's cases were young girls and unmarried women, seldom married persons. Membranous dysmenorrhoea occurred as often in unmarried as in married women. The condition never arises during the first menstruation but months or years after the first flow.

It is not inconsistent with gestation, parturition or delivery. As the vast majority of cases of painful menstruation occurs among the single, dysmenorrhœa is rather ovarian than uterine. The first ovules arising deep in the stroma of the ovary meet with much resistance, thereby causing great pain; afterwards when the ovarium thins out, becomes succulent and loose through hyperemia, it offers less resistance to the passage of the ovule and menstruation becomes less painful. Hence the cure of so many cases by the relations of matrimony, the physiological stimulant of the ovaries.

It was formerly held that during menstration the mucous membrane underwent fatty degeneration; recent investigations especially those of Mövicke have shown, however, that this condition is nothing else than a hyperæmic state of the vessels and an extravasation (diapedesis) of the menstrual flow. Post mortem examinations have not shown any radical changes in the mucous membrane except in a few cases where these changes may have been due to some incidental pathological conditions. The speaker believed that most of the cases of dysmenorrhœa are victims of the inexorable laws of society, which are often totally at variance with the laws of nature. Cases which carry the dysmenorrhœa over into married life are often the victims of unhappy domestic surroundings, cases of acquired neuroses or depend upon a nervous disposition of original inheritance constituting the class of congenital neuroses. Many cases, again, are anæmic or chlorotic conditions often depending, as Michow has shown, upon a disproportionate development of the vascular system, and are therefore benefited by such measures as are addressed in relief of the condition in general, sea-baths, minerals, iron, etc. Not much benefit can be derived in any of the cases from the gross operations of modern gynecology. The indiscriminate use of dilators, including even the daily introduction of the sound into the uterine cavity was greatly to be deprecated.

Dr. Wright said he did not fully comprehend the allusion made by Dr. Reamy that menstruation and parturition are analogous. Menstruation is a natural act, parturition a produced condition. The Bible mentions the pains of labor but says nothing of the pains of menstruation. Dr. Whittaker's observation that most cases of dysmenorrhœa occurred in young girls seems to advocate the theory that it is obstructive in nature because the passage of a child renders the tract more open for the menstrual flow. In the speaker's opinion painful menstruation depends either on a nervous condition or a rheumatic tendency.

Dr. Reamy said he was much edified by Dr. Whittaker's remarks about the relative infrequency of obstructive dysmenorrhœa and if the recognition of this fact were general the medical profession would be saved from doing much evil. Unfortunately, however, if we suppose that the time is gone by when local obstruction was regarded as the main cause of dysmenorhœa we are very much mistaken. If an outrage ought to be stopped it is the conception that young girls menstruating a few months or even a few years are fit subjects for semi-surgical gynecological practice. Every word spoken and every paper written that will correct this belief will be of unmeasurable benefit to society. In this view he thanked Dr. Palmer for the paper read. It would do good, as correct pathology and sound notions as to the nature of dysmenorrhœa would go far to correct evils in treatment. The speaker had been repeatedly compelled to remove pessaries from young girls, sometimes introduced even by men of eminence. In many instances these appliances had been worn for months, where, upon removal, he could find no malposition of the uterus whatever, simply the damage to the vagina due to distention. He had known more than one case in which the stem pessary had been forced into the cervix and worn for the purpose of correcting the slight anteflexion which at the upper portion of the cervix is the normal virgin condition. Scarcely a week passes that he does not encounter cases of supposed ulceration of the os, or falling of the womb in young unmarried subjects. Conditions rarely existing as matters of fact in such subjects. He must insist that proper discrimination is not always made in studying pathology and adapting treatment as between unmarried and married women. It is not necessary to dwell on the amount of damage, physically and morally, engendered on the nervous system or mind of such a patient. The physiological explanation, offered by Dr. Whittaker that the pain of menstruation is caused by the ovule coming from the deep portion of the ovary in young girls is not corroborated by others. When a girl menstruates the first time she becomes frightened—not from the *pain* but from the discharge of *blood*. Severe pain is not the rule with first menstruation, but comes on only after a while. Dysmenorrhœa is truly more common in the unmarried than the married female, but membranous dysmenorrhœa is at least as common in the married as unmarried; the speaker had treated this form of disease in perhaps thirty married woman, but he could remember but two cases of this form of the difficulty in unmarried women. Of course the subjects of membranous dysmenorrhœa are sterile.

The speaker would mention a clinical fact of common occurrence in the experience of all present, proving the absence of local causes in many cases of dysmenorrhœa: A young woman suffers habitually from painful menstruation for a year or two, she is sent from home, has a change of climate, from the excitement of society, or from school or some other sedentary occupation, her menstruation then ceases to be painful, but dysmenorrhœa sets in again as soon as she returns; what does this prove? Not that there was an obstruction to the menstrual flow but that she labored under the bad influences on the nervous organization caused by her ordinary surroundings or occupation. The reason why they are not cured is because they continue in their present condition until organic changes set in. On the nature of menstruation, the speaker remarked—If Dr. Whittaker was correct in the denial of the complete destruction of the mucous membrane then the speaker did not understand the current views of this process of menstruation. Engleman did original work in a masterly way in attempting to disprove this, but Farre, Williams and Aveling disproved Engleman's view and maintained that the latter's observations were made on individuals subject to other conditions, not during menstruation. Aveling's view is that the process of membrane change begins at the close of one menstruation and ends at the close of the next and that it depends upon organic changes. Williams' reply to Engleman's paper is unanswerable and, if true, gives a complete explanation for membranous dysmenorrhœa. A construction is necessary to be followed by its destruction, or, in other words, "life must precede death," and again death must precede life. The most plausible view is that there is not an inflammation but an arrest of nutrition and a consequent destruction; the membrane formed is not a product of inflammation but a membrane formed that ought to be discharged by undergoing gradual change; fatty degeneration takes place and the membrane forms the debris of the flow. The solution of the membrane does not occur when there is an arrest of destruction under a lowered nutrition.

As regards the spasmodic form of dysmenorrhœa, he thinks the following may serve as an illustration. A woman is probably well in the intermenstrual period, she then comes to consult her physician because she is sterile. An examination reveals no flexion, no obstruction, but the moment the sound enters the uterus she describes the pain such as she experiences at her menstrual period. The uterus is now contracted from the the presence of a foreign body—the sound. Thus the contraction of the uterus is also caused by the presence of the blood in its cavity. The pain is not due to inflammation or congestion but to the irritable state of the uterus which does not wait for the excess of non-striated muscular fibre as occurs in parturition. The pain is really a mock labor pain. The speaker had witnessed the menstrual flow when it emerges from the os in cases of conical cervix, and even in this condition there was no pain. It is not the size of the cervix, but other conditions existing, that give rise to the dysmenorrhœa.

Dr. Palmer in concluding this discussion said that on account of the lateness of the hour he would only reply to Dr. Reamy's criticism on the remark made that it is absurd to say menstruation is not naturally painful. All natural functions ought to be painless. Healthy women suffer with a slight malaise etc., but no pain. It is true that many women do suffer considerably during the menstrual period, but this does not prove that this physiological act ought to be painful; such cases are in abnormal health. One must only consider how much, or rather how little blood must escape at this time: four to five ounces during the period, twenty drops an hour or one-third drop a minute. This ought not to cause pain.

CINCINNATI MEDICAL SOCIETY.

Meeting of March 14th, 1882.

GUSTAV BRÜHL, M.D., *President*. W. H. M'REYNOLDS, M.D., *Secretary*.

Bovine Vaccination.

Dr. W. O. Smith read a paper on the above subject. (See page 298).

DISCUSSION.

Dr. Davy said the essayist was not warranted in condemning bovine virus. His trial of it was not a fair one, the subjects were bad and their hygienic surroundings worse. He should have vaccinated an equal number of the same kind of subjects under the same circumstances with humanized virus and compared the results before he ventured to say that the one was preferable to the other. Under the unfavorable circumstances the speaker thought it remarkable that the results were no worse.

Dr. Carr stated that he had used the bovine virus in vaccinating one hundred and fifty Russian refugees with good results. The subjects were healthy, but poor and living in a crowded and dirty manner. About sixty per cent. of the vaccinations were effective. In five cases only was there a slough and erysipelas in only one.

Dr. Wm. Judkins agreed with the essayist. His experience with the animal virus had not been satisfactory. During the last epidemic he had vaccinated thirty cases in a public institution with humanized virus and the majority took effectually but not with that severity which he had found to accompany the operation with the bovine virus.

Dr. Chas. Judkins thought it was questionable whether it was best to vaccinate such bad subjects with the unfavorable surroundings existing at the City Infirmary. He believed the Doctor would have been justified in declining to subject them to the risk of the operation under the circumstances.

Dr. W. H. Taylor thought the paper a very valuable one, both on account of its careful preparation and candid statements. He could not agree with the last speaker that the Doctor would have been justified in refusing to vaccinate. Any surgeon would have been very cautious about performing an operation under the same circumstances, and would have declined altogether unless the necessity was imperative. He would not expect results as good as in private practice or in a well regulated hospital. Here the necessity was imperative, the inmates of the Infirmary were daily exposed to possible contagion from new arrivals from the city. If the Doctor had declined to vaccinate and smallpox had made its appearance it would undoubtedly have been very fatal. With the atmosphere in that house a large proportion of the cases would, in all probability, have taken the hemorrhagic character. The Doctor did right to take the risk of vaccination, and is to be congratulated that the results were no worse.

The speaker went on to state his own experience in the lying-in ward of the Cincinnati Hospital. Two women were admitted with smallpox developing, all of the women in the ward were exposed to the contagion, all were vaccinated and none took the disease. He had also vaccinated a large number of children from twenty-four hours to four weeks of age. In all of these cases there was but one bad ulcer and erysipelas in none. One woman had an induration upon the arm remote from the point of vaccination. This lasted only a week and did not go on to suppuration. The animal virus was used in every instance. Was it not better to vaccinate these people than to run the risk of smallpox?

Dr. Kearney thought the experience of Dr. Smith quite exceptional. It could not be called a fair trial of vaccination or of bovine virus. The occurrence of the complications was not to be wondered at, as the subjects, both children and adults, were of the least promising class. The children, however, were in better condition than the adults, and the more favorable results in them was strong evidence that the fault was not so much in the virus as in the subjects themselves and their surroundings. Dr. K. had used the bovine virus and had not found the sore long in healing, nor had he seen any erysipelas follow. One young lady had a few secondary sores, and with that exception his experience had been satisfactory, but had not been extensive enough to decide whether bovine was preferable to humanized virus.

Dr. Goode had vaccinated a very large number, and, as a rule, had used the humanized virus. He had kept the same stock propagated by a careful selection of children for the last twelve years and found its activity just as great as it was in the beginning of that period.

He had recently vaccinated a child, four months old, upon the eighth day the vesicles were well formed, but shortly afterwards they were broken by rude handling and considerable diffused redness appeared upon the arm and soon extended over the whole body. In ten days this had partially subsided and there seemed to be some improvement in the condition of the patient. But upon the third day after this meningeal symptoms made their appearance and the child soon died in convulsions.

The speaker's experience with bovine virus in the few cases where he had used it had not been satisfactory. He found the period of incubation to be longer than that of the humanized; that he considered a very strong point against it where the subject was exposed to the contagion. After the vesicle had formed the further course was more protracted and the symptoms more severe.

Dr. Brühl had no experience with bovine virus, had always used the humanized and remembered only one bad case. That was at a time when diphtheria was prevalent, the sore took on a diphtheritic character and became gangrenous.

Selections.

MEDICINE.

Iodoform in Chronic Broncho-Pulmonary Affections.—Professor Chiaramelli, encouraged by the good results obtained by Professor Semmola with iodoform in broncho-pulmonary diseases, has used this remedy for the last four years in the hospital for incurables in various diseases of the respiratory tract. In cases of phthisis, even when the disease is far advanced and cavities have formed, iodoform has given the author excellent results. In every case the expectoration diminished, a general amelioration of the symptoms was observed, more particularly of the febrile manifestations. "Iodoform," says he, "diminishes the fever because of its effect on the expectoration, which is diminished in quantity and changed in quality. The change in quality being due to the power iodoform has to arrest putrefaction of albuminoid substances. In phthisis the hectic fever is due not a little to the character of the pus in the cavities."

In recommending iodoform, the author does not pretend to have discovered a sovereign remedy for phthisis, but only something that will prolong life and mitigate some of the symptoms of the disease.

In cases of commencing caseous pneumonia, the author says that iodoform administered early has a powerful influence in arresting the disease.

Many individuals affected with chronic bronchitis, associated with bronchorrhœa and emphysema, received great benefit from the remedy.

The doses were about one-seventh grain, three to five times daily, in pill form. It can be prescribed alone, or, if the indications call for it, with gentian, quinine or iron. The paper concludes as follows:

"From my experience, and that of Professor Semmola, it can be said that the dose of iodoform as given above is sufficient. If more is given symptoms of intolerance manifest themselves, particularly gastric disturbance. I prefer therefore to give three to five pills daily, and to continue the administration for a long time, having convinced myself that in that way the best effects were brought about.—*Annali Clinica, Georn. di Clin. e terapia et Gazz. Med. Itali. Prov. Ven.*, January, 1882.—*Lyon Médical*, March 5, 1882.

Ergot in Visceral Atony.—In the course of a concluding article on the "Physiological and Therapeutical Action of Ergot," in the New York *Medical Journal and Obstetrical Review*, Dr. Etienne Evetzky makes the following observations:

"There are a large number of diseases, the essential feature of which is defective innervation of the organic muscular tissue entering into the composition of a given organ. Although in some cases this relaxed state is a secondary result of inflammatory action in the part itself, in the majority of cases we have to deal with primary atony and deficient innervation. Whatever may be the ultimate pathology in any given case, the usual practice consists in the use of various excito-motors, such as strychnia, electricity, douches, massage, etc. Considering that stimulation of the organic motor centres forms the most essential part of the physiological action of ergot, it is rather surprising that it is not used more commonly in these cases, particularly as ergot is superior to any other excito motor."

He then notes the following disordered conditions: Atony of the stomach. When no definite disease exists, atonic dyspepsia is often due to a loss of power or tonicity on the part of the stomach. So also, in dilatation of the stomach, which is due in a marked degree to a paresis, from insufficient motor innervation, and is analogous to the uterine relaxation immediately after labor, ergot will prove beneficial. Atony of the intestines. Manifested mainly by constipation, and brought about by irregular habits and sedentary life. Curran has succeeded in overcoming the torpidity of the bowels in paralytics with ergot, when the most energetic purgatives had failed to act. Its power of causing and increasing peristalsis can be verified by the reader; let him take a full dose of the fluid extract of ergot, and within half an hour he will notice the effects, varying from perceptible peristalsis to the actual inclination on the part of the bowels to move. Atony of the anal sphincters, which determines prolapse of the rectum, has been frequently relieved by hypodermic injections of ergotin, half a grain, in the vicinity of the anus, every few days, the parts being held in normal position by mechanical support. It has also been found useful in paralysis of the anal sphincter after parturition.

Langenbeck has obtained good results from its hypodermic use in invagination of the rectum. Two cases are reported of strangulated hernia readily reducible after hypodermic injections, that had resisted all mechanical efforts. Atony of the bladder, secondary to a diseased state of the spinal cord, or due to some functional disorder of its innervation, invariably yields to ergot. Sutton used it with marked benefit in the retention of urine during grave constitutional diseases, while Sorbet cured a case of incontinence of fifteen years' duration in eleven days. Malarial enlargements of the spleen yield rapidly to its influence. It will control excessive mucous or muco-purulent discharge. Ergot promptly checks excessive flow of milk, and is capable of suppressing it entirely. Diabetes insipidus, which is due to paresis of the renal vaso-motor apparatus, is almost always cured by ergot, while diabetes mellitus is often favorably influenced by it. Albuminuria and its accompanying symptoms have been temporarily benefitted by it. Spermatorrhœa and prostatorrhœa, are much benefitted by ergot in connection with sedative and tonic treatment. It has been found useful in diarrhœa and dysentery. It will relieve cerebral hyperæmia, and has furnished good results in epilepsy, sunstroke, and the various vaso-motor neuroses. When neuralgia depends upon vascular disorders of the nerve sheaths, ergot is very frequently of great benefit. Chevallereau administered a hypodermic injection of ergotin to a rheumatic patient to stop a hemorrhage; it acted also so well on the rheumatic symptoms that he persisted in this treatment, and used it in two other cases. In all these patients the benefit was very striking.—*Med. and Surgical Reporter.*

INOCULATION AGAINST TYPHOID FEVER.—Dr. T. H. Buckler, of Paris, proposes (*Boston Med. and Surg. Journal*) the intestinal inoculation of individuals, especially children, with the materies morbi of typhoid fever, with the object of inducing a mild form of disease which will prevent all future liability to it. Non-recurrence, he says, may be regarded as absolute in typhoid fever. "Outbreaks of typhoid disease occurring from a like cause" (contaminated milk supply) "instead of being regarded as unmitigated evils, should, on the contrary, have been looked upon as boons of unmixed good, and it would be a great blessing for all people under twenty years of age could they in like manner, and under favorable circumstances, become impressed with the contagion." He proposed a similar measure as a prophylactic and remedy for incipient consumption.—*Maryland Med. Journal.*

TREATMENT OF INTERTRIGO.—When seated at the anus in infants, the first indication to fill is to correct the inflammation of the bowel with subnitrate of bismuth combined with chalk; or better, by means of weak doses of hydrochloric acid. No powders are to be applied to the skin as long as the epidermis is healthy. If recent excoriations are present, diachylon ointment is capable of rendering service and when that fails, recourse may be had to bichloride of mercury solution (1 grain to distilled water ℥ xxii.)—*Union Medicale.*—*Maryland Med. Journal.*

AMYL NITRITE FOR AGUE.—Dr. Saunders, of Indore, India, reports in the *Indian Medical Gazette*, a number of cases of ague successfully treated with amyl nitrite. He asserts that in every instance the disease yielded quickly and permanently to the amyl treatment. He mixes the drug with an equal volume of oil of coriander, to make it less volatile and to cover its odor, and administers it as follows: Four drops of the mixture are poured on a small piece of lint, which is given into the hands of the patient for him to inhale freely; he soon becomes flush, and both his pulse and respiration are much accelerated, and when he feels warm all over, the inhalation is discontinued, as the symptoms continue to increase for some time afterward; a profuse perspiration now sets in, which speedily ends the attack, though in some cases the cold stage merely passes off without any hot or sweating stage.—*Therapeutic Gazette.*

ON THE RETARDATION OF SENSORY IMPULSES IN LOCOMOTOR ATAXY.—Fischer (*Berliner Klin. Woch.*, 1881, 33), examined five cases of tabes with a view of determining the relative rate of sensations of touch and pain. For such experiments it is advantageous to deal with patients intelligent enough to give an accurate description of their feelings. The retardation for impressions of pain may be considerable. He found it once to extend to fifteen seconds, but states that sensations of touch may be delayed longer than those of pain. The delay may vary during the experiment; it may become less on repeating the stimulus; or, contrariwise, the stimulus may cease to be perceived at all. Retardation of the other kinds of sensation (temperature, pressure, etc.) was not clearly demonstrated. The author does not offer any theory in explanation of the retardation.—*Brain.*

THE TREATMENT OF ACUTE PNEUMONIA.—Surgeon Deakey states that pneumonia occurring in the natives of India is very frequently of an asthenic, and often of a latent type. It is particularly intractable to treatment.. He has therefore been led to employ belladonna in such cases, and has been much impressed by the good results which have attended upon its use. Surgeon Deakey attaches much importance to full and regular action of the bowels whilst the belladonna is being administered, and to insure this he gives magnesium sulphate in addition to potassium bromide or iodide. The combination of iron with belladonna also tends to induce a proper action of the bowels. If there is much muco-purulent expectoration, it is advisable to give an ipecacuanha emetic before commencing the belladonna treatment.—*Indian Medical Gazette.*—*The Practitioner.*

ATAXY AND SEWING MACHINES.—M. Octave Guelliot publishes, in the *Union Médicale*, an interesting paper on two cases of locomotor ataxy in women employed in working sewing machines. In women predisposed to hysteria, working at the sewing machine seems to be, in certain cases, the occasional cause of the appearance of locomotor ataxy. The symptoms commence in the lower limbs, and follow an ascending progression. Lightning pains appear in the form of shooting pains, and traverse the limbs from below upwards. Improvement occurs when the patient rests, and may last a long time. Working at the machine by means of a treadle probably acts chiefly by the concussion, which is diffused throughout the spinal cord. Therefore, the continuous movement of the treadle is dangerous to the workwomen; and endeavors should be made to replace, in sewing machines, the foot-movement by some other mechanical motor power.—*British Medical Journal.*

SURGERY.

THE IODOFORM DRESSING IN SURGERY.—(Continued.)—The wound having been prepared in the manner previously stated is thoroughly dusted with iodoform and all parts of the wound, whether bone or soft tissues be involved, are treated in the same manner. In sub-periosteal amputations it is customary to dust over the medullary cavity and to bring the periosteal flap over this, in osteoplastic resections the sawn surfaces are dusted very lightly, brought into contact and then wired together, in extirpation of tumors the surface from which the tumor has been removed, as also the under surface the skin flap, are treated with the powdered medicament. *Iodoform does not prevent union by first intention*, although it apparently separates the surfaces whose coaptation is desired; it is only to be remarked, that, in such cases, it must never be used so as to constitute a thick layer, which is all the more unnecessary as the speedy union of the wounded parts renders the prolonged action of the medicament superfluous. Billroth and Wölfler oppose the statement that union by first intention is possible with the powdered iodoform, but their attention does not seem to have been sufficiently directed to the quantities necessary for obtaining such result, and, while it is undoubtedly true that a thick layer of iodoform does so, by promoting suppuration and acting as a foreign body, yet, when used so as to constitute only a thin film, the best results are possible; and further experiments cautiously carried out will show the reliability of this method and will yield excellent results in spite of the use of iodoform. The author has never failed to observe the healing of osseous surfaces in amputations and osteoplastic resections, and always without the occurrence of necrosis and he is led to the conclusion that wounds which are capable of union by first intention, are fully as likely to heal under iodoform as under the Lister dressing, since the iodoform if properly applied does not hinder primary union, but rather favors it, although apparently acting as an interposed foreign body. If the wound has been dressed with iodoform it may be treated in three ways: 1st. Left open altogether. 2d. Left partially open. 3d. Closed by sutures. The first and second methods are suitable to all wounds of cavities and free surfaces, the third for all operative wounds, where there is a possibility of union by first intention, and where this mode of union is aimed at.

In taking up, firstly, wounds which are to be left freely open, we take as an example an osteotomy of the tibia for central necrosis. We will suppose that artificial anæmia has been produced with Esmarch's bandage, that the incision has been made and the periosteum lifted off, that the bony covering has been chiseled away or trephined, the sequestrum removed, the edges of bone smoothed, the granulations removed and the cavity in the bone washed out and thoroughly cleaned. Some operators, accustomed to the use of as much as 200 grammes iodoform at a single dressing, would probably fill the entire cavity in the bone before putting on the protective dressing; now this is entirely unnecessary and is really a reckless extravagance in the use of a tolerably high-priced preparation. The author's method in such a case is to dust over the under surface of the periosteal flap and the surface of the cavity with powdered iodoform; the cavity left in the bone, which would probably fill with blood as soon as the Esmarch bandage was taken off, is protected against such an occurrence by using tampons of iodoform gauze. The use of the gauze is particularly to be commended in the case of wounds communicating with natural cavities, as in the case of wounds of the cavity of the mouth, vagina or rectum; the tampons may be left unchanged for eight days without causing any irritation or any decomposition of the secretion.

As an example of a partially open wound, a resection of some joint, as of the elbow-joint, may be taken. In this case, after completion of the operation, and cleansing of the wound, the iodoform powder is distributed over the whole wounded surface until a layer of about $\frac{1}{16}$ of an inch is formed. The edges of the wound are united at intervals or throughout their entire length, except at the angles, so as to allow of the escape of the secretion, which is favored still more by the introduction of drainage tubes. In cases of this kind the use of the tampon is manifestly impossible, as the primary suture is in the way of its subsequent removal. The cavity left under the united flaps remains empty, and hemorrhage is prevented after the removal of the esmarch by a tight bandage or by suspension of the limb. The use of the tight bandage has this disadvantage, that the parts beneath are subject to a greater pressure, and, as the rapidity of resorption is almost directly proportional to the degree of pressure, there is a possibility of a sufficient resorption of iodoform to lead to symptoms of poisoning by this agent. Similarly there may be a resorption of the secretion, which, although seldom giving rise to septic processes, is usually attended with more or less fever.

As an example of a wound, in which it is intended to obtain union by first intention under the iodoform dressing, where accordingly the wound is united in its entire length by sutures and the wounded surfaces are brought together as much as possible, we may take an amputation. Our first care must be a complete arrest of hemorrhage by means of ligation or torsion of the vessels; and the Esmarch bandage is to be removed immediately after completion of the operation and ligation of the principal branches, and not as in the previous cases after the dressing has been finished. When there is no further bleeding from the wound, the iodoform is dusted over the same, so as to cover all parts, but only in such quantity as will form a thin film upon the wounded surface; the ends of the bones and the medullary cavity are treated in the same way; the edges of the flaps are then brought together and united by sutures. Provision should always be made for drainage, inasmuch as attention to this detail has never produced any bad effect; its omission, however, often has prevented union, and although a few cases may succeed without any drainage yet the principle is, in general, incorrect.

After discussing thus explicity the application of the iodoform, we come to the protective dressing. The object of this dressing is to absorb the secretions from the wound, and to retain them temporarily. In the Lister dressing, the object of the protective is merely to prevent the decomposition of the secretion. With iodoform this decomposition is impossible, as the iodoform in the wound prevents all decomposition there. So that wounds treated with iodoform might be left without any protective, were it not for the powerful odor of the remedy and the soiling of the bed-clothes by the secretion, as well as for the better fixation of the parts when such a dressing is applied. The materials for protective must meet two indications; they must be able to absorb the secretions of the wound, and yet must prevent the rapid saturation of the dressing from an accumulation of this secretion; gauze, soft linen compresses, clean charpie and jute will be found to answer the purpose; these are to be covered with some water-tight material, as gutta-percha paper, oiled silk or the Mackintosh. With these two materials the dressing is complete, and there is no necessity for the remaining rather expensive details of the Lister dressing. J.E.

(To be continued.)

THE DIAGNOSIS OF EPITHELIOMA OF THE TONGUE.—Most surgeons will admit that, if operations for the removal of epithelioma of the tongue are to be undertaken with any prospect of permanent success, they should be performed at the earliest possible period of the disease, while yet but a small segment of the tongue is affected and the lymphatic glands are sound. Most surgeons will agree, therefore, that a certain and early diagnosis of the epithelioma of the tongue is exceedingly to be desired. No means, however, are described by which a certain and early diagnosis can be effected. The characters which chiefly are relied on are, the sinuous outline of the epithelial ulcer; its raised, everted, nodular borders; its glazed, or foul and ragged surface; and the surrounding induration. But every surgeon knows how often one or the other of these characters is absent, and how many of them are simulated in a tuberculous or syphilitic ulcer, and how difficult the diagnosis of certain cases is, not merely in their early stages, but when they have existed many months. Mr. T. Smith's cases, reported from the St. Bartholomew's Hospital consultations in the last volume of the *Journal* (1881, vol. ii., page 1 015), affords an admirable illustration of the difficulty of distinguishing between epithelioma and tertiary syphilis of the tongue. It shows, too, the diastrous result which follows the practice of deferring an operation until the effect of antisyphilitic remedies has been observed.

This watching of malignant ulcers, and studying the effect of remedies upon them, is so common, that a surgeon, so far from being blam for following it until the disease is too far dev oped for operation, would more probably b blamed for adopting the opposite principle, a freely cutting out a disease of doubtful nature. I is at present impossible to make a certain di nosis of all forms of malignant ulcers in all par of the body; but in the tongue I believe it i possible, and not extremely difficult.

The structures of which epithelioma is com posed are very characteristic, and lie so close t the surface that they can be easily procured fo examination by scraping the surface of the ulce with a blunt knife or Volkmann's spoon, or any similar instrument. In addition to pus and blood-corpuscles, *debris*, and microzymes, numerous epithelial cells are always present, but differing widely from the normal epithelium of the tongue. Many of them are smaller than the normal cells; others are much larger; the nuclei of both kinds are several times larger than the normal nuclei. All the cells are granular; some of them are clouded and opaque with granular matter. Some contain large, round or oval spaces, clear and well defined. Many of them have more than a single nucleus, and some contain smaller cells with nuclei and nucleoli. The shape of these abnormal cells varies as much as does their size; some are round, some oval, some quadrangular or polygonal, some tapering at one end, and some at both ends. With these distorted and fantastic cells, normal epithelium may be mingled; but the normal cells are few in number, while the diseased cells are many.

Sometimes, and not unfrequently, even more characteristic structures than any of those described are found; i.e., cell-nests, or portions of cell-nests.

I first applied this method of examination in the case of an epithelioma of the tongue in a young man, where the diagnosis was difficult, partly on account of the patient's age (29). The microscopic characters of a scraping dispelled all doubt of the nature of the disease. I have since used it in several difficult cases, with the greatest satisfaction. In order to prove that the test is reliable, I have made sections after removal of the epitheliomata which have been scraped and examined before removal, and have thus been sure that the diagnosis was correct. I have also examined scrapings taken from other kinds of ulcers of the tongue, and have never found structures resembling those of epithelioma. Pus, and blood and granulation-corpuscles are present in large quantities. Micrococcus-masses, *debris*, and normal epithelium are almost always present; but diseased and altered epithelial cells are not found.

I can, therefore, confidently state that the structures I have described are found in epithelial carcinoma of the tongue, and that they are not found in any other kind of ulcer with which I am acquainted. I cannot yet say when these structures begin to be formed, and therefore how soon an epithelioma may be recognized by examining a scraping from it. But I know that they are early formed; for I have found them in ulcers of only a few weeks' duration, which few persons would have ventured certainly to dia nose and treat as cancerous, had it not been for their presence.

I do not, of course, allege that this proposition, thus to examine malignant ulcers, is original; but I desire to place it on a firmer footing than hitherto; to show how far it is reliable, and in what cases it should be used.

The method is very simple, and very easily applied. The surface of the ulcer to be examined is cleaned by lightly brushing it, or gently scraping it with a blunt instrument; a slightly deeper scraping is then taken, mixed with a drop of water on a glass slide, and examined with a quarter-inch power, or No. 7 Hartnack. The pain produced by this operation is so trivial that it seldom calls forth a complaint; and the scraping may be repeated several times, if necessary, without seriously inconveniencing the patient. It may be employed, not only for epithelioma of the tongue, but for squamous epithelioma (squamous-celled carcinoma), whenever it occurs in accessible situations. I have used it for epithelioma of the upper jaw, the face, the penis, and the uterus. I am afraid it cannot be employed, however, for malignant ulcers other than squamous epitheliomas with any degree of certainty; for the structures of which most of them are composed are not sufficienty characteristic to be recognized.

One caution may be given. It must not be too hasily assumed that an ulcer is not epitheliomatous because these structures are not at once discovered. If its general characters be suspicious, it should be repeatedly examined before a definite conclusion is arrived at.

I hope it will not be believed, because I recommend so strongly this method of diagnosis, that I am insensible to the general characters of epithelial ulcers, or that I desire others to take no notice of them. On the contrary, I think they should be as carefully studied in the future as in the past; and, when any of them can be shown to be reliable in diagnosis, the microscope should be dispensed with.—Henry T. Butlin, M.D., in *British Medical Journal.*

TAPPING THE PERICARDIUM.—M. Rendu communicated a very interesting observation of a case of pericardial effusion treated by puncture to the Société Mélicale des Hopitaux. A young man was attacked with dry pericarditis, the result of a chill. Soon after entering the hospital all the signs of effusion appeared, and in less than twenty-four hours the pericardium became considerably distended. The patient had frequent attacks of dyspnœa, and soon cyanosis commenced. It was at this stage that M. Rendu decided on tapping the pericardium. The puncture was made an inch and a half below the left nipple, and an exit was given to a considerable quantity of liquid, to the great relief of the patient. A few days afterwards he left the hospital cured. M. Labouleue had in his service a patient also suffering from effusion into the pericardium, but complicated by pleurisy. Thoracentesis was practiced with success, but he hesitated to tap the pericardium. M. Paul declared that paracentesis of the pericardium was an operation before which one generally hesitated, as much on account of the difficulties of the diagnosis as on that of the almost constant failure of the operation. When the patient was young and the disease was fully developed, one might attempt the operation. There was but one region where puncture might be attended with danger, and that was the part corresponding to the heart's apex, which should be carefully examined.—*Medical Press and Circular.*

THE INFLUENCE OF SEXUAL EXCITEMENT ON WOUNDS.—In a paper recently published in the *Lyon Medical*, M. Poncet draws attention to the evil effects of sexual intercourse when indulged in during convalescene from injuries, operations, etc., and suggests that this may be a not very unfrequent, though unrecognized, cause of some of the mishaps and complications that occur in private practice. The sexual act produces a certain amount of shock which, M. Poncet thinks, may be placed side by side with traumatic shock, and which leaves the patient for a certain time after indulgence in a condition of "least resistance," during which he is especially susceptible to morbid influences. With regard to the impression produced even in health by the act of coitus, some thermometrical experiments undertaken by an interne of the Lyon Hospital are quoted. A thermometer placed in the rectum was carefully observed on nine occasions; and it was found that the temperature was always from five-tenths to six-tenths of a degree Centigrade (nearly 1° Fahr.) lower just after than before coitus. During the act, the temperature rose slightly above normal. In illustration of his views, M. Poncet gives notes of seven cases observed in his own practice, where complications were ascertained to have followed coitus. Four of these patients had lesion of the hand or finger, and all were going on well up to the time of sexual indulgence, which was quickly followed by pain and swelling of the injured part in one case, and in three others by inflamation of the lymphatics, which went on to supuration in two. In another case, chronic tetanus was attributed to the disturbing effects of coitus, and in yet another the non-union of a fracture. In the latter case union took place when the man was removed from his mistress, who had been nursing him. In the seventh case, pyæmia and death are referred to a similar cause. The patient had undergone amputation of the thigh for an injury, and was in the country away from any known septic influences. The wound was healthy and granulating, when, on the eighteenth day after the operation, he had intercourse. Rigors quickly followed, and death occured five days later. A somewhat similar case is mentioned on the authority of Ollier. Although these cases are all surgical, M. Poncet also refers to the adverse influence of sexual excitement in some other diseases, notably diabetes and gout.—*Brit. Med. Jour.*

ON ABUSES OF THE JACKET-TREATMENT OF SPINAL DISEASE.—The writer, while acknowledging fully the debt European surgery owes to Dr. Sayre for the able advocacy of his treatment, and granting that it is due to his exertions that in

England it has come into such general use, considers that in many cases the jacket is hastily and needlessly applied, and that its employment is often actively harmful. He divides the cases in which the jacket-treatment is abused into two classes: A. Those due to a wrong selection of cases; B. Those due to wrong methods of application of the jacket

In class A the following are given as improper instances:

1. *Simple rickety spines*, often mistaken for cases or of commencing caries.

2. *Cases of simple lateral curvature*, in which the disease is perpetuated by the use of rigid support.

3. *Certain cases of true spinal caries.* In infants during the early progress of the disease the older plan of rest and horizontal position succeeds better than does any attempt to immoblilize the spinal column, it is free from the risk of preventing due development of the trunk; but the jacket may be used from the first in older children with or without confinement to bed.

4. Cases in which the lungs or heart are affected, in addition to the affection of the spine.

5. Cases in which the carious spine is associated with any high degree of paralysis, inconti- of urine, etc.

In class B the following are the chief instances of misapplication of jackets:

1. *Undue heaviness*, many jackets being far too thick and strong,

2. *Use of the swing.* This apparatus is considered to be, for children, useless if not harmful, the object of extension being to allow the body to hang as straight as it may while avoiding all risks of disturbing any adhesions between consolidating vertebræ, and to bring the chest-walls into a condition of extreme inspiration. It is held that these objects are best attained by holding the child by the arms with the feet on the floor, or by the use of an inclined plane.

3. *Bad fitting and bad shaping of the jacket.* More especially neglect of the inspiratory position of chest-walls. insufficient hold of the jacket on the pelvis, and inaccurate fitting to the spinal curve or angle.—*Walter Pye, F. R. S., in Amer. Jour. of Obstetrics.*

A CURIOUS case of malformation was exhibited by Dr. Hofmokl at a recent meeting of the Imperial and Royal Medical Society of Vienna. It consisted in an arrest of development of the three middle toes and the third and fourth metatarsal bones; the subject, a young man, having on each foot only the great and little toes, situated wide apart.—*Brit. Med. Jour.*

SURGICAL TREATMENT OF ANEURISM OF THE ASCENDING PART AND OF THE ARCH OF THE AORTA.—E. Kuster reports in the *Centralblat. für. die Med. Wiss.*, two cases. The first had suffered for more than a year with an aneurism of the aorta before he would permit any surgical interference but was finally driven to it by increased pain, dyspnœa and increase in the size of the tumor.

The right carotid was ligated below the omohyoid muscle, with antiseptic precautions. An amelioration of all the symptoms was immediately noticed. The aneurism became smaller and harder. Three months later, however, a second operation became necessary, and the right subclavian was ligated between the scaleni muscles. The patient died suddenly, two months after the last operation.

The second patient, 30 years of age, syphilitic, had had an aortic aneurism for 9 months. He died two days after ligature of the carotid.

The autopsy revealed an aneurism of the ascending aorta, about the size of a fist, with no clot in its interior. Endarteritis of the arch and of the thoracic portion of the aorta was well marked. A clot had formed in the carotid both above and below the ligature.

The author has collected eleven cases including his own, in six of which the operation was followed by an amelioration of the symptoms, while in the remaining five the operation was either without effect or of positive harm. He thought that the statistics were of such a character as to permit him to recommend the operation, when performed with antiseptic precautions, over the ligation of the brachiocepalic trunk.—*Lyon Med.* Feb. 20th, 1882.

OBSTETRICS.

RUPTURE OF THE UTERUS SUCCESSFULLY TREATED BY DRAINAGE.—Two cases in which this usually fatal accident was successfully treated by drainage, are reported in a recent number of the *Centralblatt für Gynäkologie* (1880, No. 26). One is reported by Dr. Morsbach. The patient was aged thirty-five, and had had four children, the last five years previously. Labor came on at full term. When vigorous pains had lasted five hours, the mid-wife ruptured the membranes. After this, the patient, who had till then been standing, felt herself obliged to lie down; and the pains ceased. Three powders, obtained from a chemist, were given to bring on pains, without effect. Ten hours after the rupture of the membranes, Dr. Morsbach saw the patient. The os uteri was about eight centimetres in diameter, and the feet could be felt presenting, but high up. A dose of ergot was given, without effect. The patient was then narcotized, and it was discovered that there was a rupture of the vagina and cervix uteri, and that the child was in the abdominal cavity, except one foot, which was within the uterus. The foot was seized, and the rent carefully enlarged by numerous small incisions with scissors, till it would allow the child to be extracted. The hand was then inserted, and the placenta, which was in the peritoneal cavity, was removed. Two thick caoutchouc drainage-tubes, were put into the rent, and a pad of salicylated wool between the thighs. Slight pyrexia followed, lasting a little more than a week, with abdominal tenderness and tympanites. One drainage-tube was removed the next day, and the other on the fourth day. The patient got up on the fourteenth day. Fourteen weeks afterwards she thought herself quite well, There was then a deep fissure in the cervix posteriorly, the bottom of which could not be reached by the finger, and a cicatrix in the posterior vaginal wall. Dr. Morsbach thought it possible that the midwife may have ruptured the uterus when she thought she was only rupturing the membranes, for she admitted that she had found great difficulty in doing what she did. The other case occurred in Berlin, and is reported by Dr. M. Graefe. The patient was in labor with her thirteenth child. The pains continued for six hours, and then suddenly ceased. An hour afterwards she was found in a state of collapse, the face presenting, an arm down in front, and a foot behind. Incomplete rupture of the uterus was diagnosed, and the patient was removed to the hospital. When she got there it was plain the child was in the abdominal cavity, the contracted uterus being felt to the front and to the left of it. The hand was introduced, a foot seized, and the child extracted; then the placenta was removed. The uterus was found ruptured transversely, only about three fingers' breadth of its wall remaining entire. The peritoneal cavity contained much clotted blood and meconium. It was washed out with a 2½ per cent. carbolic acid solution, and then a thick drainage-tube, thirty centimeters long, put into the abdominal cavity, and secured by a silk suture to the posterior commissure. A bandage was put around the abdomen, and on it an ice-bladder. During the first two days the pulse was hardly perceptible. Hiccough and vomiting were troublesome during the first five days. The temperature did not rise until after the sixth day, when she began to have evening exacerbations of fever, which continued until the beginning of the fourth week, after which the temperature remained normal. After the sixth day the parts were irrigated from one to three times daily, through the tube, with a 2½ per cent. solution of carbolic acid. The tube was removed on the thirteenth day. The patient left the hospital, well and strong, on the thirty-fifth day. Dr. Graefe remarks, that whatever be the position this treatment will ultimately take, as compared with laparotomy, in these cases, there can be no doubt of its advantages in country practice, where the necessary assistants, instruments, etc., for laparotomy often can not be had in time to be of service. These authors were led to adopt this mode of treatment by a paper by Dr. Richard Frommel, which will be found in the *Zeitschrift für Geburtshulf und Gynäkologie*, Bd. V., Helf ii. This author reports eight cases, seven treated by laparotomy, all of them fatal; one by drainage, which recovered.—*Med. Times and Gazette.*—*Gaillard's Med. Jour.*

A New (Bloodless) Method of Removing Subserous Fibroids of the Uterus.—At the last meeting of the gynecological section of the German Association of Naturalists and physicians, (*Archiv f. Gynäkologie* XVIII, 3), Prof. Schroeder, of Berlin, read a paper on the management of the pedicle in Myotomy. His method is as follows:

The pedicle or neck of the tumor is firmly constricted by the elastic tube or band of an Esmarch's bandage, and the tumor cut off above it. There is a free discharge of blood from the engorged tumor, but presently the white, bloodless surface of the stump appears. This is then slightly excavated with the knife, so as to make a funnel-shaped depression in the stump. Care must be taken not to carry this excavation too deeply, as the elastic ligature might slip off. The edges of the stump are the approximated antero-posteriorly, and sutured with strong silk. The needles which must be very strong ones, are passed deeply through the parenchyma of the stump, avoiding the peritoneum. After approximating the edges, numerous smaller sutures are passed in the intervals between the larger ones, in order that there may not be the slightest gaping between the edges of the wound. After the edges have thus been brought accurately in contact, the peritoneum is drawn over the stump, and likewise stitched together with fine silk. The stump is thus placed entirely outside of the peritoneal cavity, and is only marked by the line of suture. The elastic ligature is then removed, and if any bleeding points remain, additional sutures are to be placed.

The operation done in this manner becomes entirely bloodless. The sutures must, however, be placed in close contiguity, and the approximation must be very exact. Owing to the absence of hemorrhage and the accessibility of the stump, the operation can be done with comparative rapidity. In one case where 56 sutures were applied, the operation was completed in an hour and a quarter. Schroeder has operated in nine consecutive cases by this method, with entire success. By this method, the tendency to abdominal hernias, which is very great where the clamp is used, is avoided.—*Independant Practitioner*

Fibroid Tumor of the Cervix Uteri.—M. Depaul communicated to the Academy de Medicine, a case of dystocia interesting of recognition. It occurred in a woman aged 32 years of very good health, come almost to full term. A few days before entering the hospital she felt something heavy fall out of the genital parts, which had been taken by a midwife and by a physician for a detached placenta. Direct examination showed between the labia majora an immense mass, violet red, pretty firm on palpation, elastic, the size of a fist, and emitting an excessively fetid odor. It was easy to see that this tumor filled the whole pelvic cavity. It appeared evident that its presence would prevent delivery, and might bring about the death of the mother and child. It had extended beyond the vulva for five or six days, but it was only since the last 48 hours that it had reached such alarming proportions. By touch, the neck could scarcely be reached, and it seemed evident that the external tumor was only the prolongation of another and more voluminous one. The patient was taken with pains the same day; the external tumor had become as large as two fists', and scarcely permitted the introduction of the fingers into the vagina.

The child was suffering considerably, for the heart beats were considerably diminished and irregular and feeble. M. Depaul then drew the tumor out little by little with his hand, showing a mass enormous compared with the cavity which contained it. He was certain that the point of attachment was on the left part of the anterior lip of the neck, It was necessary to act at once, *accouchement* did not occur, and the mother and child might not be long in succumbing. M. Depaul cut the pedicle with a bistouri, for this means can be employed in a great number of cases without serious hemmorrhage. This done, the child was delivered, and is doing well as is also the mother. The tumor weighed 1790 grammes, it was a fibroid and very vascular. Cases of fibroids in the body of the uterus in pregnant women are not rare, but those of the neck especially of such volume are not common. M. Depaul calls attention to the fact that tumors of this kind when difficult of diagnosis, can simulate a detached placenta an error which might prove detrimental to the patient as can be readily conceived.—*From Journal de Medècine et de Chirurgie* Feb. 1882. C.E.C.

DANGERS DUE TO THE SUSCEPTIBILITY OF THE UTERUS.—Prof. Verneuil calls attention to the fact that although the uterus can generally be subjected with impunity to the most varied operations, there are yet certain women in whom, owing to a peculiar susceptibility, the most insignificant operations lead to grave accidents. A fatal peritonitis has been known to ensue from the simple vaginal touch. M. Verneuil cites two cases of death occuring in women the subjects of cancer of the uterus; in one an application of perchloride of iron had been made, in the other the part had been lightly touched with chromic acid in or to check fungous projections. After the most simple surgical interference with the uterus it is, therefore, necessary to take the most minute precautions in order to avoid these possible accidents.— *L' Union Medicale.— Maryland Med. Jour.*

OPHTHALMOLOGY—OTOLOGY.

HYSTERICAL DEAFNESS. — M. Ouspeneky of Moscow, publishes in the *Annales des maladies de Coreille*, two cases of interesting hysterical deafness. A woman nineteen years of age, was affected with an absolute deafness resulting from an otitis following upon scarlatina complicated with diphtheritic angina. The otitis was cured by appropriate means, but the hearing had not returned and the patient was sent to the country to build up her health, which had become greatly affected. However, after a few days, the hearing commenced gradually to return, and without apparent cause became completely deaf again; then two days after, having returned to her. But since then she has lost it again almost every week. The appearance of deafness was always preceded by a change in the voice, which becomes harsh and loud. Sometimes the patient experiences before the attack a certain noise in the ear, as if something had broken there; sometimes she feels a pricking pain in the left side of the throat, and a little difficulty in swallowing. The deafness lasts a day or two, or only a few hours, or even a few minutes, but never more than three days. At its disappearance, the voice again becomes clear.

This patient had for a long time lost the sense of taste and smell. A new examination showed that the deafness was complicated with anæsthesia of the left side of the head, of the conch and the nose. The probable nervous origen of this deafness inspired the author with the idea of treating it with galvanic currents which had an almost marvelous effect. After six consultations the patient was almost cured, there remaining only a very slight deafness. This case is complex enough, and although hysteria seems to play an important part in this deafness, it is probable that old lesions of the ear did a great deal also to produce this affection.

It was not the same in the following case; a woman forty-three years of age, was completely deaf in the right ear for five years, with insensibility of the pavilion and the external meatus; she also suffered from a very troublesome sound of whistling. This deafness came on shortly after an attack of sneezing. There was no existing lesion of the ear, for here again, electricity brought about an almost immediate cure. A hysterical deafness only can be admitted for the perfectly sound condition of the organ of hearing after five years of disease as was the case here, can only be observed in cases with that origen.

Apropos to this the author recalls what Briquet says of hysterical deafness. "The diagnosis and treatment of this anæsthesia are so certain," says Briquet, "that one day when a strange lady, I know not by what chance, consulted me for deafness, I was going to send her to more competent persons when she told me that she was deaf only in one ear, and that was the left, and at the same time she heard whistlings which bothered her very much. This drew my attention. I examined her ear, and found it insensible. I said to the lady, cross the street and ask Mr. Duchenne to relieve your deafness, and you will return in ten minutes. She indeed returned in ten minutes, hearing perfectly, after a few moments use of electricity, and happy to be relieved of the whistling which was so troublesome that she always thought that some one was playing a joke, by standing behind her and whistling in her ear. C. E. C.

DEAF-MUTISM.— Dr. Boucheron lately made a communication to the Medical Section of the Paris Academy, in which he expressed an opinion that the co-existent states of deafness and dumbness so often observed is owing to the compression of the acoustic nerve. This compression is the result of the vacuum existing in the cavity of the tympanum. This vacuum causes the external air to press on the membrane, and thus on the ossicula, and finally on the liquid of the labyrinth and the nerve. By frequent insufflation into the Eustachian tube, M. Boucheron succeeds in destroying the vacuum, and thereby the pressure on the nerve, and deafness is cured. M. Boucheron has restored in some cases, to the apparently deaf and dumb, and even idiots, the faculty of hearing and of speech.—*Brit. Med. Journal.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, April 8th, 1882.

Miscellany.

ACADEMY OF MEDICINE.—Next Monday, April 10th, Dr. Whittaker will report a case of "Tubercular Peritonitis," and Dr. Ransohoff will give the particulars of an autopsy held on the same case.

IS SEWER GAS A FETISH.—History proves that every people, in every stage of development, worships objects, from love or from fear, which turn out with advancing knowledge to be mere fetishes, as impotent for good or for evil as the wood-cut of the late General Wool which a Polynesian explorer found pasted on a pole and adored by the inhabitants of a South Sea island. In this country for the last twenty years sewer gas has been the universal object of as worshipful dread as a personal devil was in past generations. There is no ill of the human body, and scarcely any ill of the human mind, which is not attributed in New York City to its malign and subtle influence.

But now comes the State Board of Health and publishes an averment that "no such gas as sewer gas exists, and there is absolutely no proof that the diseases which attend the admission of sewer air into a dwelling are produced by gases." We quote this averment from a report just made to the Board by Mr. Gardiner, the director of the State Survey, who is *ex officio* a member of it and is chairman of its Committee on Sewerage. To this report the Board has given its official sanction and passed resolutions adopting its argument and conclusion.

The argument is that the zymotic diseases popularly attributed to the mythical sewer gas are produced by microscopic organisms of the class called bacteria, which are developed on the walls of our brick city sewers in the combination of heat, moisture and darkness under the stimulus of the ammonia arising from decomposing sewage there present. As these sewers are used to carry off storm water besides sewage, and as "the storm water falling per hour in violent rains over an acre of closely built city land is nearly fifty times the amount of the waste water and sewage produced per hour on the same area," their usual condition is that of great caves with a mere trickling thread of sewage along their floor. But as in times of rain they are nearly full of the dilute sewage which results from combination with storm water, their walls then become coated with a film from which the bacteria are afterward developed, and then the germs of the poisonous organisms float off into the sewer air and are carried into dwellings in that air just as dust is blown into the windows. The foul gases of decomposition may or may not accompany their entrance. This theory, Mr. Gardiner reports, is now maintained by the sanitary department of the local government board in England.

This being the argument the conclusion is that conduits for draining a city of its waste water, slops and sewage should have no connection whatever with those for carrying off the storm water, and that separate pipes of comparatively small dimensions and of glazed vitrified tile should be laid for the former purpose, thereby avoiding the great wall space on which the bacteria now sprout out of the film of dilute sewage, and also avoiding a mode of structure which affords such facilities for the lodgement of a film as a brick wall does. The main sewer laid in Memphis under this "separate system," in the plan of drainage executed there since the deadly ravages of yellow fever three years ago, is only fifteen inches in diameter, and some of its branches have a diameter of only six inches.

The resolution of the State Board of Health in support of this conclusion reads as follows:

That the costly plan of large combined sewers for carrying sewage and storm water together has proved a sanitary failure both in England and in this country, while the "separate system," when properly constructed, avoids in great measure the evils from sewer air, now so common, and is much less expensive for most towns. That the "separate system of sewers," with flushing tanks, are hereby reccommended for general use in this State.—*N. Y. Herald.*

CRUSTACEAN PERCEPTION OF LIGHT.—The interesting question of the power possessed by the crustacea to distinguish light of various colors has been reinvestigated by Merjkowski. It will be remembered that M. Paul Bert made some experiments on the subject, and concluded that certain of the fresh-water crustacea possess this power, and that Sir John Lubbock had arrived at a similar conclusion with regard to ants. Merjkowski has experimented on the larvæ of Balanus, and on one of the marine copepoda, Dias longiremis. In a dark vessel the animals were dispersed through the whole of the water, but if light was admitted through a small opening, they collected in its vicinity. If the light admitted was rendered monochromatic, the result was the same, whatever was the color of the light. Two windows were then employed, and closed with glass of different colors. If one admitted white, and the other colored light, the former was always perferred. If the color was a light shade, yellow-green and light-red, a few collected at it, the majority remaining in the white light. If two colored glasses were employed, that which admitted most light was always preferred, whatever the color. If, however, the two rays had an equal illuminating power, the crustacea divided themselves into two equal groups whatever was the nature of the color. The least difference in the degree of light was at once responded to. The conclusion is that these creatures are sensitive to the quantity of light, but not to its character; to the amplitude of light-waves, but not to their number; and that their perception of light, therefore, differs essentially from ours.—*London Lancet.*

THE VIVISECTION QUESTION IN THE GERMAN PARLIAMENT.—A petition was presented to the German Parliament some time ago, asking for the restriction or abolition of vivisection. The matter was referred to a committee, which, through its chairman, Prof. Hüter, of Greifswald, has recently reported against the petitioners. The report was accompanied with a motion that, considering (1) that, in the interest of science, vivisection appears to be indispensable in teaching institutions; (2) that changes in the penal statutes in the direction desired by the petitioners have not been shown to be necessary; (3) that the petitioners have the opportunity of laying their complaints of any abuses in regard to vivisection before the local authorities who have the regulation of the teaching institutions—the house passes to the order of the day. Two of the members of the commission had expressed themselves as unfavorable to vivisection, and had proposed that all experiments on animals attended with suffering, unless they served highly important scientific purposes, should be punished with a fine of six hundred marks (*l*30), or a corresponding term of imprisonment. In the discussion in the House, Herr von Minnigerode proposed as an amendment that the petitions should be referred for consideration to the Imperial Chancellor. Professor Virchow denied the correctness of the statement made by the petitioners, that experiments were performed in the universites to a great extent by students. He proceeded to show that vivisection was indispensable to the progress of medical science. The Minister of Public Instruction endorsed the report, and the motion of the committee was carried by a large majority.—*Med. Record.*

SCHIZOMYCETES, OR MICROBES.—The recent introduction into medicine of a number of new terms, springing out of investigations into the origin of certain diseases which are likely to be frequently encountered, makes it important that definite meanings should be attached to them by those who employ them, in order not to be misunderstood by those who hear them. The *Popular Science Monthly* gives the following classification of Mr. W. Hamlet of the microbes (microscopic organisms of fermentation and disease). 1. Microbes which appear as points are called *monads*, *monera* or *micrococci*. They are motionless, and may be regarded as the spores of other microbes, 2. Motionless linear microbes,—the *bacteridians* and the *bacilli*. To them belong *Bacillus Anthracis*. 3. Cylindrical mobile microbes, having rounded ends or contracted in the middle so as to form an 8, are the *bacteria* proper. Among them is *Bacterium termo* of putrefaction, the commonest of all. 4. Flexuous mobile microbes. They look and act like eels, and differ but little from the equally active bacteria. They are the *vibriones*. 5. Spiral microbes, resembling a corkscrew, and mobile,—*Spirlila Spirochetæ*. Their presence in human blood appears to be connected with intermtttent (relapsing—ED.) fever. 6. Microbes with heads, very active, having globules larger and more refractive than the rest of the body at one or both ends. These globules are apparently spores ready to be detached from the bacterium,—*Bacterium capitatum*. Besides these six principal states, the microbes form agglomerations or colonies that often notably change the aspect of the elementary cells, and which have received various names. Agglomerations in microscopic masses, surrounded by a jelly that sticks them together and deprives them of motion, are called *zoöglœa*. A non-gelatinous membrane formed of motionless bacteria is a *mycoderma*. Bacteria attached end to end in a string form filaments of *leptothrix*. A number of spherical micrococci joined one after another form the string of round grains called a *torula*. A considerable number of species may be included in each of these divisions; and there does not appear at present any way of distinguishing by sight a disease-producing bacterium from a harmless one.—*Philadelphia Med. Times.*

MEDICINE IN THE HEBRIDES TWO CENTURIES AGO.—Disease was often at the door, and the Hebrideans had a regular system of home-grown medical treatment. For small-pox, there a dreadful scourge, they had really no cure. The general treatment was blood-letting. For a troublesome brochan, a kind of thin gruel, taken in large quantities, and as hot as it could be rendered, was the common remedy. Roots of nettles, boiled down, gave a kind of medicine that was used as a tonic. If the uvula became enlarged, or fell down, they cut it dextrously with horse-hair, which was twisted around it. For the jaundice, they had several remedies, of which one was this: The patient was made to lay flat on the ground, then the tongs or a bar of iron was made red-hot and gently applied upward to the patient's back, till he got into a great fright and rushed furiously out of doors under the impression that he was being burnt. The shock often gave him the turn, it was supposed. A cure used for catarrh or inflammation of the lungs was perhaps more in the line of modern therapeutics. The patient was made to walk out into the sea up to his middle, with his clothes on, and immediately afterward to go to bed without taking them off. Then, by putting the bed clothes over his head, he frequently succeeded in procuring copious perspiration, and the "distemper was cured." In the beautiful parish of Kilmartin, which contains the grave of many a nameless king and chief, there lived at the time of the Union a blacksmith, who had a wide reputation for his skill in curing every phase of faintness of spirits or nervous complaints. He was a man of singular muscular power and singular command over his arms. He placed the nervous patient on the anvil with his face uppermost; he then took his big hammer in both his hands, and approached the sufferer with a ferocious aspect, as if to murder him with one blow; and the shock completely restored the shattered nervous system!

We can easily understand how a people crushed down for centuries, and facing perpetual poverty as the peasantry of the Hebrides were, would become the prey of all sorts of quacks, and would have to pay the penalty due to their credulity. Bone-setters were numerous among them, and appear to have had a good practice. Herbalists flourished and were trusted. Many of them, no doubt, performed their cures, though they resorted to mysterious proceedings, through their superior knowledge of roots and herbs. Frequently, as in the case of the famous Neil Beaton, they were supposed to affect their cures through a compact with the Devil, rather than from the virtues of their simples, when in reality they derived their medical knowledge from their forefathers. Sometimes a knowledge of medicine was hereditary, like the gift of poesy or of second-sight. But the people believed in the personality and power of the Devil notwithstanding, and when all lawful or recognized means failed, to the Devil they were prepared to go for cure, help or deliverance. Hence all the oldest records reveal an extraordinary contest between the Kirk on the one hand and the various emisaries of Satan on the other. We are dealing with a period when belief in witchcraft was quite common, and when those suspected of trafficking with the Devil were put to death by burning on the ordinary Gallows-hill. Death, almost every where the king of terrors, was made very horrid in the Hebrides through the extraordinary system of belief, worked up by the prophets of the second-sight. In every parish there was at least one person who lived by performing cures by means of charming. Children who died unbaptized were supposed to be doomed to eternal torments; and evil spirits of various kinds were supposed to watch over helpless infancy to do it some harm. —*The Cornhill.*

SELF-MUTILATION IN CHINA.—Dr. R. J. Jamieson, of Shanghai, has recently presented to the Museum of the Royal College of Surgeons a pair of feet, to which the following remarkable history is attached. Some months ago, a Chinese beggar excited much pity, and made a very profitable business in the streets of the foreign settlement, Shanghai, by showing the mutilated stumps of his legs, the feet belonging to them being tied together, and slung around his neck. Warned frequently by the police, he was knocked down one day by a carriage when scrambling out of the way of a constable. He was brought into the hospital, under Dr. Jamieson's care, being slightly injured; and, on recovery from his bruises, he sold to his medical attendant his feet, which otherwise would have been confiscated by the police. He admitted that, for the purpose of making himself as attractive as possible to the charitably disposed, he had, about a year previously, fastened cords around his ankles, drawing them as tight as he could bear them, and increasing the pressure every two or three days. In about fortnight, the bones were bare, and he had no more pain. At the end of a month and a half, the bones were quite dry; and, by this time, according to his account, he was able to remove the feet by partly cutting and partly snapping the bones. The feet were quite black and mummified; on the wounded surface of the right foot, the upper aspect of the astragalus was seen, no trace of the malleoli remaining; but the external malleolus lay in its normal position in the left foot, and it had evidently been removed by cutting and snapping, as the patient affirmed. The stumps were perfectly healed, and conical; the ends of the tibiæ and fibulæ were apparently fused, and both stumps were covered in with a good cicatrix, puckered at the centre, and admitting of a very considerable amount of pressure before pain was produced. Such instances of self-mutilation appear to be frequent in China; and, when performed for such a motive as in Dr. Jamieson's case, they throw a light on that singular mixture of courage, deceit, and sacrifice of almost anything to advance low enterprise, which characterize the lower orders of that country.—*Brit. Med. Jour.*

ANESTHETIC MIXTURES.—The Vienna mixture, with which eight thousand operations have been performed without an accident, consists of ether, three parts; chloroform, one part. Billroth's favorite anesthetic mixture is chloroform, three parts; ether, one part; alcohol, one part. An English mixture, known as the A. C. E. mixture, consists of alcohol, one part; chloroform, two parts; ether, three parts. Owing to the different volatility and specific gravity of the various anesthetic liquids, the vapors have necessarily a different composition from that of the mixtures themselves. The value of a mixture must therefore in part be determined empirically. Some experiments have been made in the mixing of heart-stimulants with chloroform. Sandford mixed one pound of chloroform with two drams of amyl nitrite. Others have added oil of turpentine to the chloroform. The objection so far has been that such mixtures cause a headache.—*Medical Record.*

The Thickness of the Skull.—Mr. Roger Williams writes to us: The question was raised, in the recent discussion on "Hats and Heads," whether modern heads are smaller than they used to be. If the following quotation from Herodotus may be relied on, we might naturally expect to hear of such a diminution consequent on the prevalent custom of wearing hats, inducing thinning of the cranial bones. I am not aware of any explanation as to the varying thickness of the skull in different individuals and races; possibly the following quotation may throw some light on the matter. "Here" (Pelusiac mouth of the Nile), "I saw a very surprising fact, which the people of the country informed me of. For, as the bones of those who were killed in the battle lie scattered about separately (for the bones of the Persians lay apart in one place, as they did at first, and those of the Egyptians in another), the skulls of the Persians were so weak, that, if you should hit them only with a single pebble, you would break a hole in them; whereas those of the Egyptians are so hard, that you could scarcely fracture them by striking them with a stone. The cause of this, they told me, is as follows, and I readily assented: That the Egyptians begin from childhood to shave their heads, and the bone is thickened by exposure to the sun; from the same cause, also, they are less subject to baldness, for one sees fewer people bald in Egypt than in any other country. This, then, is the cause of their having such strong skulls; and the reason why the Persians have such weak skulls is this: they shade them from the first, wearing tiaras for hats. Now, I myself saw that was the case; and I also observed the same thing at Paprenies, with respect to those who were slain with Achæmenes, son of Darius, by Marus the Libyan." Book III, ch. 12. —*Brit. Med. Jour.*

Formation of Hyaline Tube-Casts.—In an article on the "Histological Lesions of the Kidney in Albuminous Nephritis," by V. Cornil, (*The Practitioner*, February, 1882), the morbid changes in the kidneys in albuminous nephritis are studied by the aid of pathological specimens obtained from a case occurring spontaneously in man, by which, also, the mode of formation of hyaline cylinders is demonstrated. The patient had an attack of acute Bright's disease after exposure to cold. Death, preceded by anasarca and uræmic coma, occurred seven weeks later. Post-mortem examination of the swollen, injected kidneys demonstrated very plainly the role of the renal cells in the production of intra-tubular exudation. A vacuole filled with liquid first forms in the interior of the epithelial cells, which projects; then the wall of the cell breaks, and a little drop falls into the cavity of the tubule. "These clear or granular globules are observed in greater or less quantity—*i. e.*, in a greater or less number of urinary tubules—in every case of albuminuria." The chemical nature of these globules does not appear to have been as yet perfectly determined. Besides these, the exudation is composed of red blood-corpuscles, leucocytes and blood-serum, the latter constituents being more manifest in these glomeruli. "The farther these different parts of the exudation pass on from the place where they have been poured out, the more do they become mixed into a homogeneous mass,—liquid at first, and then dense and colloid,—which coagulates. Such is the origin of hyaline casts. . . . . The narrow parts of the tubule which compose Henle's loop form a kind of wire-drawing apparatus, and as the colloid coagulum passes through them it is drawn out like a thread, taking a regular form, which it preserves in the wide intermediate convoluted parts of the tubule and in the straight tubule. These are veritable hyaline casts.—*Phila. Med. Times.*

Medical Fees in London.—I believe that it is now the habit of the principal London physicians to charge three guineas ($15) for a visit at the house of a patient, two guineas ($10) for the first visit of the patient to the physician's office and one guinea ($5) for a subsequent visit there. After all a man who is believed to have special talents for healing is right to charge highly for it. The abuse seems to me to be this: whereas, any physician may charge more than a guinea, no physician is allowed by the etiquette of the profession to charge less, and yet probably there are many clever young physicians who now have very little practice, and would themselves gain and benefit others were they allowed to charge half a guinea.—*London Truth.*

Memorial Statue of Albrecht von Grafe.—Arrangements have been made between the committee for erecting a memorial of the illustrious ophthalmologist von Gräfe, and the magistrates of Berlin, by which the statue will be presented to the town, while the municipal authorities undertake to preserve it and the ornamental ground on which it stands. It is intended that the ceremony of unveiling the statue shall take place on May 22d, the aniversary of the birth of von Gräfe.—*Brit. Med. Jour.*

A Chicago daily tells of a speculum of bone, which was driven into a man's spinal cord by a pistol shot. A new place to introduce a speculum; but the manner of introduction is scarcely more severe than the way in which some physicians use the other kind of speculum.—*Peoria Med. Monthly.*

M. Dareste, in a note communicated to the Académie des Sciences, says that recent experiments have proved to him that the partial compression of the amnios in the embryo of birds induces the production of monster or malformed birds. The compression must be performed when the embryo is nothing beyond a mass of homogeneous cells.—*Brit. Med. Jour.*

Pasteur has been made one of the Forty Immortals of the French Academy. Napoleon III. tried in vain to obtain this honor.

Clinical Lectures.

DELIRIUM TREMENS.

By Jas. T. Whittaker, M.D.

Good Samaritan Hospital Medical Clinic, March 31, 1882.

Gentlemen: Here is a big strong man who is hiding his face in his blanket from fear and not from shame; and yet we have to manacle him hand and foot to bring him before you. It is rather a disgrace to us to have to resort to this procedure in the treatment of his case, and is justified only by our lack of men to keep him in restraint. It would require just four men in relays of two to exercise the constant supervision which the case demands, and we are compelled to substitute such a force by rings and chains. If we had an upholstered room we would let him loose to tire himself down little. As we are not so provided we must do the best we can, and we console ourselves with the reflection that by tomorrow at the furthest—he came to us only yesterday—we can relieve him from his bonds.

He is fumbling with his handcuffs all the time, trying to untie them, you see, with his hands and teeth. He motions to us to give him a knife, as plainly as if he spoke, thinking—the rings being wrapped in cloth—he is only tied with rope. He is very busy all the time. He talks a good deal to himself. His hands and arms are in constant agitation. He does not notice us at all, he is so occupied with his own affairs. Occasionally he smiles, showing a silly weak expression, and when I force him to look up, he does it furtively, as you see, half guiltily, I might say, like a child caught in a naughty act. He has a weary look. His face is pale, his eyes water and wander in their gaze, his breath is offensive, his tongue, thickly coated yellow, is protruded tremulously on sharp request and soon withdrawn, his lips tremble when he tries to speak which he does in a very rambling incoherent way; it is very obvious that he would pitch to the floor if he should attempt to stand.

Delirium tremens, you say at once. Both factors of the disease, the delirium and the tremor you observe at a glance, and the third cardinal symptom, the insomnia, you can readily infer. So some one has said that delirium tremens is a disease which so far as its symptomatology is concerned stands upon a tripod, to-wit, sleeplessness, delirium, tremor. I would ask you to make it a four legged stool and add the fact, one of the most important of all in differential diagnosis, that there is no fever. Sleeplessness, delirium, tremor, apyrexia, by these signs ye shall know it.

Perhaps you think that anyone knows delirium tremens at a glance, and it is a waste of time to talk about it. Well, if you will read the daily papers for awhile you will every now and then come upon a case where a man has been locked up in jail or in the station house as drunk, when it has turned out that he was hit upon the head, or is a victim of uræmia, of typhoid fever, of sunstroke, or some such disaster, and you can imagine what a mortification to the physician who has made the mistake such a disclosure must be.

This patient has not slept since he came into house, and insomnia as I have said is a cardinal symptom of this disease. The disease proper is often ushered in with sleeplessness. The victims of acute alcoholism come to us haggard and worn with loss of sleep. There is no delirium proper as yet, but there begin to present visions of evil things which come up just as physical exhaustion is about to resolve itself in sleep, visions which snatch away his rest and rouse the miserable sufferer to a realizing sense of his horrible state. How powerful these impressions are, or how racked the nervous system is, we learn by the enormous quantities of opium or chloral that sometimes fail to produce sleep. Thus, Thomas Sutton who named the disease from its two most prominent symptoms, delirium tremens, gave one of his patients in all the enormous amount of forty-two grammes of opium without securing the desired effect.

Our patient here thinks now and says that he is in open court and he speaks in his wandering way in self defense. This is an innocent delirium and more quiet than that which afflicts him alone or with his attendant in his room. There, he has visions of various things which give him infinite distress. As nearly as we can make out he does not see any animals, which is true of the great majority of cases. Some few of more vivid imaginations are frightened by beasts with heads and tails strange to zoology and comparative anatomy, but the majority of the cases do not even "see snakes" as is commonly believed. They who are surrounded by animals at all are plagued rather by their number than their size. Bugs, flies, fleas, beetles in millions and myriads crawl about their beds, crowd the air of their rooms, and, indeed, fill the whole of the interplanetary space.

But most of the cases which I have seen have feared their fellow rather than the inferior creation. Thieves and assassins lurk about their beds with drawn knives or presented pistols and they are defenseless save by flight. Suddenly they start and shrink or spring with the desperation of fear to the floor, and if not intercepted jump from the windows and rush down the streets, shrieking maniacs, to the alarm of passersby. Sometimes these fears are founded purely on imagination, they are pure delusions in fact, again they are illusions, misconceptions of real things. So the person of a stranger or even of a friend is regarded as the assassin, or a piece of furniture is mistaken for a weapon. The physician, beaming with benignity, going about the wards with the innocent stethoscope in his hand has created such consternation in his approach to the bed as to cause the patient to leap through an adjoining window to the ground where he has been picked up with broken limbs.

In another class of cases constituting the more chronic form of the disease the most singular hallucinations are sometimes observed. Thus Mendel says that Lasegue reported the case of a patient who maintained for forty-eight hours that his family had cut off his penis and substituted for it an organ of lead which was not properly fastened on and greatly incommoded him in getting about. The same author, Mendel, speaking of the persistence of the impressions made upon the mind of these patients, relates the case of a man just recovering from delirium tremens who reported to the police in Berlin the details of the murder of his wife by a fisherman of that city. The report was made so circumstantially clear, that the papers were full of it, and the police were engaged in working up the case for two days, when the informer plunged himself into the river and was drowned. Mendel himself had treated this patient for delirium tremens, and it turned out that the whole story was a fabrication, the product of a hallucination which the patient believed to be true. Suicide, or attempt at it, occurs in about six per cent. of cases of delirium tremens.

The third cardinal symptom of this disease is tremor. You see it all the time in our patient in his hands and arms. It is an old time test of the stage of acute alcholism to have the patient hold out his hand. The lack of tremor shows control of the disease. With this tremor of the hands and arms is also tremor of the tongue and often of the lips. The motor, along with the intellectual, centres of the cortex suffer from the direct irritant action of the poison. The double or disturbed vision which leads to so many ludicrous mistakes is a tremor or a paresis of the muscles of the eye. The poor victim of acute alcoholism excites a smile in his dazed attempt to define with his vision the common articles in his room, and Toodles, who impersonates him upon the stage, convulses his audience in his futile efforts to count the fingers of his glove.

The perceptions of sensation are even more completely annulled. The surgeon designedly produces anæsthesia with a big drink of whisky before he commences with his work, and many a man has become a drunkard through the anodyne effect of alcohol taken first in relief of pain. The subject of delirium tremens has lost all perception of pain. He lies out over night until his extremities are frozen. The blade of a knife may be sunk to the hilt anywhere into the body without a sign of pain, and the man who has fallen in his flight will lift himself upon his broken legs or hobble about with a cracked pelvis utterly oblivious of any pain.

These are the disturbances of motion, sense and sensation, which characterize delirium tremens. Of all which it may be said that they are transitory, and after any or all of which a *restitutio ad integrum* is possible. But sometimes graver phenomena occur, phenomena which leave a lasting impress upon the nervous system. I do not refer here to the coarse organic changes which take place in the body, paralytic dementia, cirrhosis of the liver, etc., lesions of chronic alcoholism, of which the acute manifestation of delirium may be only a complication, but to the damage which may be done during the attack of delirium tremens itself. Thus a man may break a vessel in his brain and die of apoplexy, or recovering from the immediate effects remain paralyzed for the rest of his days. Such a lesion could scarcely occur in a recent or first case, but is not so very infrequent in old cases in which the habits of intemperance, the other bad habits which go with the dissipation, induce a premature fragility of the vascular walls.

Much more frequent than apoplexy or cerebral hemorrhage, is epilepsy. Dipsomania is itself a neurosis, and the continual surrender of the will of the individual at last reduces it entirely below control. Victims of delirium tremens come of neuropathic stock, or have often themselves some other form of neurosis. According to Westphal thirty per cent. of the cases were victims of epilepsy before the first manifestation of delirium tremens, and thirty per cent. of the remainder were seized with epilepsy during the attack.

These manifestations of the effects of alcohol find easy explanation in our knowledge of its action in the body upon the nervous system. Taken in diluted form, as it always is in spirituous drinks, it is quickly absorbed by the blood vessels of the stomach—not at all by the lymph vessels, as it is never found in the chyle—and circulates as alcohol for a time along with the blood. So the presence of it may be recognized wherever there is blood, in every organ, therefore, of the body. But while alcohol is thus uniformly distributed over the body, not every organ feels its effects alike. As might be naturally supposed the nervous system feels it most, and upon the nervous system it acts—according to the present state of our knowledge—by a direct chemical irritation or transformation of the contents, the protoplasm, of the nerve cells. First to suffer are the ganglion cells of the cerebrum, whence the sleeplessness, next the centres of spinal sense, whence the delirium, next the centres of motion, whence the tremor, next the centres of special sense, whence the delirium, and, lastly, the medulla oblongata whence the affection of respiration which, when sufficiently intense, ceases altogether. Death by a toxic dose of alcohol is death by paralysis of respiration, by asphyxia, literally by apnœa.

Apyrexia, absence of fever, is the last characteristic symptom of the disease. Perhaps it is hardly proper to speak as a symptom of a manifestation which distinguishes itself by its absence. But it is important to emphasize the fact that delirium tremens, pure and simple, runs its course, mild or severe, muttering or maniacal, without the least elevation of temperature. The importance of a knowledge of it rests upon the fact that the affections with which delirium tremens are most likely to be confounded are distinguished by the presence of fever. Thus typhoid fever seen first or but a few times might be easily mistaken for delirium tremens, but typhoid fever has its typical temperature record, at all times—during the delirium at least—above the line of health. So, too, the delirium of septicæmia is differentiated by the fact that in this disease also there is a characteristic, if irregular, range of elevated temperature.

No rule without exceptions. There are cases of delirium tremens characterized by very high ranges of temperature. But these are cases with complications; and in a febrile case of this disease you will seek for the cause of the fever, Most commonly you will find a pneumonia, unmasked only by the closest search; a pleurisy you may detect; but a meningitis will give you the gravest apprehensions regarding the future of the case. These last are often the cases of furibund delirium which require force to restrain.

So the future of a case, the prognosis, will vary according to its character and complications, according to the age and the strength of the individual, according to the damage which may be done to the organs by chronic alcoholism, which is a chapter by itself. For delirium tremens, the acute disease, has no morbid anatomy of itself, and even the cases of wildest delirium and most speedy dissolution reveal under the knife of the anatomist no lesion to account for the effects.

Chloral is the cardinal remedy in the treatment of delirium tremens. A single large dose of it will often jugulate the disease. Less than thirty grains is useless, and it is wise to give a whole drachm at once. One large dose is infinitely better than repeated small doses, and there is no danger in the use of it in this disease, provided, I repeat it again and again, provided there is no weakness at the heart. But drunkards, you say, are the very individuals who do have fatty hearts. So they do, and hence with chloral as with every other remedy, you must pick out your cases. A young strong man, like this, suffering with his first attack or attacks is not yet the subject of this lesion. It is the old drunkard, the habitual sot, who more especially suffers in this way, the gross, corpulent, heavy, sluggish and thoroughly selfish individual who oftenest has the fatty heart. Put your ear down to the chest and listen to the sounds of the heart. If they are muffled, if the pulse is feeble, if it fade away entirely when you hold up the arm at right angles to the body, you will give no chloral to that case.

What then will you give? Opium. Opium is the anodyne for the more chronic case, or for the acute complication in a chronic case. Give morphia preferably and give it hypodermically that it be not rejected. Give in an average case one-half a grain of morphia in this way, and having waited ten or fifteen minutes for its immediate effects, you may leave the case for two or three hours to the assistants. If there shall have been still no sleep, and the pupils are not contracted, you may give one-fourth of a grain more. Here you will stop for four hours at least, when you will wish to see the condition of the pupils again. If they are now contracted and the breathing is slow, your vigil with the case begins. Should these danger signs continue too long or grow worse, you will have to keep the patient awake. You will do this best, not by flagellation, not by dragging the patient about the room, nor forcing him between two men to walk the streets, nor by splashing him and the bed with water, but by simply calling his name aloud in his ear. This you must repeat and repeat until the respirations come to ten to the minute at least, as you count it with your watch in your hand. Perhaps you may have to give much more morphia than I have indicated to secure the sleep, perhaps you may be so situated as to have the patient take the tincture of opium in divided doses over a longer time, perhaps you may have to combine the opium with something else, perhaps you may have a case to which you do not dare to give opium at all, because of the complicating pneumonia or meningitis; all these things you will have to determine, each man for himself, and each case for itself, and upon your judgment here as elsewhere will rest the result with the case and with you.

Three remedies there are with which to combat delirium tremens. Two we have mentioned already. The third is digitalis. Digitalis is for the fatty heart, the weak pulse, the cold surface, in short, the collapse. Give by preference the infusion, freshly made, a dessertspoonful to a tablespoonful every two, three or four hours, how can anyone say, how much or how often in his judgment is best unless he sees the individual case.

The bromide of potassium is for the next day, for the day after the sleep, or for a mild case during the day, when the drug for the sleep is for the night.

But you are not yet done with the treatment of the case. The sermon is now to be preached, and you are the best preacher, better than any temperance fanatic. Because you can appeal to the revelations of science regarding the effects of alcoholism, appeal to the reason, if there is any left; while the other preachers may appeal only to the emotions which, even when strongest, fleet like the clouds. That we may ourselves, however, not dwell in generalities among the clouds, let me say that you will advise your patients to drink wine and beer instead of the stronger preparations of alcohol, for to the Southern peoples of Italy, Spain, and South Germany, where wine and beer flow like milk and honey in the promised land, delirium tremens is almost unknown.

Original Communications.

"STAMMERING."

Read before the Academy of Medicine, March 27, 1882,

By Prof. Georges Delon,
from Paris, France.

Through the very flattering commendation of your esteemed colleague, Dr. Whittaker, I feel highly honored with the privilege this evening of being able to call your kind attention to a human informity, its treatment and cure, stammering, stuttering and defects of speech. It is necessary to state that the medical profession, in this country, as also elsewhere, has, so to speak, given up the study and cure of impediments of speech, seemingly justifying the opinion that there is very little or no remedy possible, and through this negligence allowing quackery to do much harm.

I will not examine before you, gentlemen, the anatomy of the vocal organs, nor the formation of speech. Stammering, stuttering and the impediments of speech are a fact, and all theory is important, if not to explain, at least to prevent them. I think it would be difficult to refer the various defects of speech to one general cause. Sometimes the defect is organic or hereditary, at other times the result of contagion, which is nothing more than a bad habit, most generally both. Among people afflicted with stammering we ordinarily notice that the vocal organs are weak and stiff, wanting in strength and suppleness. In many cases, also, the tongue is too long or too short, too thin or too thick; the teeth, the lips, and the palate cavity affect some peculiar disposition, the root of the tongue completely covering or too much disclosing the opening of the throat. In a word, the conformation of the vocal organs is sensibly different from the normal appearance presented among persons who speak fluently. The respiratory organs are also in a bad condition and do not work regularly.

Another characteristic of a stammerer, while being a consequence and at the same time a cause of his trouble, is an extreme nervousness, and we may remark that it is not the least of the difficulties to overcome.

Another effect of that disease, which contributes to augment it, is an excessive timidity, which makes the disease both mental and organic.

It would be impossible to suppress stammering by modifying the organs of which we have spoken by means of a surgical operation. Some trials formerly made to that purpose have proved a failure, and have maimed the patient for life.

The stammerer must be able to speak with his organs just as nature has made them, since there is no possibility of changing them. The question is to teach him how to make the best possible use of them, to harmonize their functions, and it is necessary, before all, to improve the condition of those organs, to give them the strength and suppleness they need.

There is, indeed, never a person afflicted with a defect so intense that he did not succeed at times, not knowing it, in pronouncing every sound and in articulating every movement; therefore, there is no organic impossibility to utter certain articulations. The defect lies in the ignorance as to how to direct the organs, difficulty of these organs to obey the will and inaptitude to produce some sounds and movements.

Then this leads me to affirm, although the contrary has been said by eminent men, that the cure of stammering is always possible in all cases where the organs have not been mutilated nor struck with paralysis, and that the cure must every time be sure.

My brother and I have treated stammering and all defects of speech, both in Europe and America, for a number of years. I know the various systems used in the regular institutions established, and I know also the numerous tricks sold by quacks to those who deceive themselves in believing that the cure of such an informity may be obtained without hard work and perseverance.

The aim of our method is to remove the organic troubles by regulating the respiration by giving to the organs of speech, by means of rational and repeated exercise, the necessary strength and suppleness. The affects rapidly manifest themselves, and the desired results soon obtained have also an influence on the general condition of health. I have at present under my care a gentleman 19 years of age, whose breast has been developed to such an extent in 15 days that he is no longer able to button his vest and coat; in this same length of time he has gained 10 pounds in weight.

Then, we teach the pupil the formation of sound, the value of each letter or combination of letters, the articulation of movements, and the regular and natural mechanism of all the vocal organs. Afterwards, by means of gradual and progressive exercises, we bring the patient to the natural tone of conversation.

The time required to pursue these periods of exercise is only three weeks; in many cases the pupil is able to attend his business after 10 or 15 days.

I insert here some of the general advices given to the pupils who have attended our course:

Advice to the pupils who have followed our course:

1. We call the attention of our pupils to the fact that they must apply themselves seriously and with perseverance to practice our system, until it becomes a settled habit with them.

2. Before speaking they must be careful to take a full and quiet breath and to renew their respiration according to the sense of the phrase, and never to speak when the air is exhausted.

3. Put into practice the observations made relative to the movements of the lips and tongue.

4. Preserve a good syllabation. This is easily hidden by the intonations and inflexions of the voice.

5. Speak with assurance, watch over the emission of your words, exercise full control over yourself, and the more you feel embarrassed the more you must speak slowly, coolly and deliberately, in a word be ever on your guard and watch yourself attentively.

6. We may sum up our system in three words: Respiration, syllabation and tranquility. These include everything and they are equally indispensable.

7. Take advantage of all opportunities to speak slowly, as for instance when you are with your family or friends.

Finally we insert here for our pupils a few slight tasks, to be done night and morning, until such times as they shall have strengthened their new pronunciation. The time necessary for this will depend on the amount of application they put forth, and these works are indispensable to insure a permanent success. * * * *

Note.—We would recall the attention of our pupils, that they will profit much more by slow exercises than by rapid ones. Let the pupil have courage and patience; he must never be disheartened with his work; have confidence in himself and be not intimidated by others, and he will thus obtain an enduring success, the triumph of which shall be our most pleasant reward.

L. and G. Delon.

You see, gentlemen, that we recommend prudence, care and perseverance. There is what is necessary to teach every pupil in order to cure him. But as we cannot find two identical cases, it is necessary to give to every one special advices and instructions, according to his own defect and nature and conformation of his organs. It is here that the experience of the instructor is indispensable and through which it constitutes the best of methods.

I do not believe in the possibility of self-cure. I have still met with some cases where, in the course of time, after maturity, the impediment decreased. I have known a number of persons, among them some doctors, who, having carefully studied their organism, had worked for a long time with perseverance to effect their own cure, and I must say, without any benefit. They had bought a library of all works published on this subject. However, the intelligent and enlightened direction of a professor is indispensable.

It is for the professor a work of patience, of devoted attention, which necessitates most peculiar care. The instructor must also act on the morals of the patient, succeed in receiving his complete confidence, and succeed in suppressing at the same time the material defect and the trouble arising partly from his timidity and peculiarities of temper to which persons afflicted with stammering are too often inclined.

Of course the complete success depends, in a good measure, on the patient himself. Average intelligence alone is sufficient; but the greatest attention, the most constant care, good will, energy and perseverance are necessary to obtain a brilliant result.

The pupil must be prudent and patient, above all in the beginning, in order to forget his bad habit of speaking and to have him to acquire the new one. He must never lose sight of his aim to improve his speech, perfect his cure, and I flatter myself that I have numbers of pupils who are now able to speak as well as if they have never been affected by any defect of speech, and that it would be impossible to detect that they had been inveterate stammerers.

In short, to cure stammering is to teach the science of speech. We teach the pupil how to speak in the most natural way, without effort to gain absolute control over his organs, to become completely master of himself. The cure being once effected, the temper and social habits of the patient are advantageously modified. The stammerer once cured becomes quite a new man. I feel specially glad to say that my former pupils are my most devoted friends, that their gratitude is sincere and unforgetting. Here is what one of my best pupils and friends wrote to me lately, a brilliant gentleman 25 years of age, graduated from a selected college, who had suffered untold tortures from stammering:

"My acquaintance with you began a new epoch in my life. Things look different to me now, and the future, whatever it may be, will certainly be much brighter and happier now that I have cast off, with your help, the rusty old chains that bowed me down with fear and mortification."

I have said that the cure of defects of speech is always possible, and I may expect that it is possible at all ages. For a child under 10 years it is very easy to rectify and improve the organs, and it is only a work of patience. At the age of 15 the defect has not become deep-rooted; the cure is very easy enough, but after that age the cure is more difficult, the disease more serious, and it is only with a man of fully developed intellect, that is to say after the age of 25, and the decrease of the nervousness characteristic of younger people, that we find great assistance in affecting a cure. I have gradually come to the conviction that if parents would give more attention to the defects of the young child beginning to stammer, if instead of laughing or becoming angry, they knew something about treating their child and teach him to speak and overcome the growing defect, if above all, parents never let any nervous child associate with any stammerer, or hear him speak, I feel confident in saying that there would never be any more stammering. And, gentlemen, I think that I do not exaggerate in telling you that there are over 150,000 stammerers in the United States — a great mass of suffering people, people who are suffering every day and on all occasions during their life. Let us make it known that they can be helped! they can be relieved! they can be cured! If the proportion of stammerers is larger in this country than Europe, the contagion of the disease may be attributed to the fact that the use of various languages and to the quick nature of the American people, quickness which may be noticed in a surprising volubility of speech.

Laudible efforts are also being made to call the attention of those whom it may concern to the feasibility and necessity of their cure.

A monthly paper, published in Albany, *The Voice*. is entirely dedicated to the remedy of defective speech. The valuable articles in that paper are of course inefficient to bring about a cure. but are highly interesting to those afflicted, in showing them the way to procure it. That paper denounces with energy all frauds and the ignoramuses who swindle credulous people, in which the publication renders very good service.

Such is, gentlemen, the work to which I have devoted my time and care.

My best efforts aim to obtain for the future the success and favor that our method has met with everywhere, and to deserve your approbation.

I thank you very much for your kind attention.

DUBOISIA.

By W. W. Seely, A.M., M.D.

I presume everyone, who has observed closely, has found a case or cases in which the correction of errors of refraction by glasses as determined by *atropine paralysis*, the results have been unsatisfactory.

Ever since errors of refraction have been introduced, there has been felt the necessity for paralysis complete of the ciliary muscle, and for years atropia was the sole agent for producing this paralytic condition. The persistency of its paralyzing and mydriatic action was so great as to preclude its use in all but the most aggravated cases; still it was firmly believed that its power over the ciliary muscle was absolute.

On the 23rd of March, 1878, Dr. Galezowski exhibited to the Sociéte de Biologie specimens of a new mydriatic, *duboisia;* and in the June 1st, 1878, number of the "Clinic" appeared among the selections the heading: DUBOISIA. THE NEW MYDRIATIC ATROPINE IS DYING, ATROPINE IS DEAD! the first notice of the new mydriatic, so far as I know, that appeared in the country.

In the fall of 1878, Mr. Wilfert procured for me all that was to be had in Paris, it being the first order for the drug from America.

I put it to the most severe and exhausting tests, even in one case getting its complete general physiological action, and published in the first number of the LANCET AND CLINIC, January, 1879; and then the drug was for sale, the only place in the country.

The readers of my articles on this mydriatic are acquainted with all the ocular facts in connection with the drug, as nothing has been added to, and certainly nothing taken from, my statements.

The provocation for this brief article is to make one more claim for *duboisia.* I said above that atropine was regarded the standard for comparison in paralyzing power, and of course individuals who only depended upon atropia results, were sceptical in regard to those of the new mydriatic, and were even rash enough to claim that they were incomplete, and that no advantages were gained by its introduction.

Time, with its clinical experience, has shown that atropine can no longer hold its place as the arbiter of the refractive state. I have long since learned that "control-experiments" must be made *not with atropine* but with *duboisia.*

Sometime since I re-examined a young man's eye, whose glasses had never been satisfactory, the error having been determined after ten days' use of a four-grain solution of atropine, three times a day, owing to great spasm of the muscle. Sometime since I used atropine to see if I had by chance made a mistake, but found the same as was recorded in my case book. His eyes finally became intolerant, and I put in two or three drops of a four-grain solution of duboisia. As soon as he took his seat on the chair in front of the test-types, he remarked: "We will find something this time, for while I have heretofore been able to read $\frac{20}{70}$, I now couldn't read $\frac{20}{200}$ if I didn't know the letter," revealing compound hypermetropic astigmatism while only hypermetropia was recorded before.

For me, I have now sufficient experience, "control-experiments," etc., to entirely convince me that atropia should be entirely abandoned for determining errors of refraction.

Undoubtedly in such cases—and results have shown that no one dares to trust in a large number of cases to anything but paralysis—patients pay their money for certainities when glasses are ordered.

What we need is a paralysant that will act with the greatest rapidity and power. Such an agent will be far less likely to act in an irregular manner upon the different meridians of the circular ciliary muscle, and give rise to irregular astigmatism, as I have every reason to believe atropia does now and then.

Besides, we need an agent that will paralyze before it irritates the eye, enlarges the blood-vessels, etc., thus insuring greater certainty of action. Such an one is not atropia, but is, in my judgment, *duboisia.*

Fourth and Broadway.

NEW OPERATION FOR CLOSING THE VULVA IN INCURABLE CASES OF VESICO-VAGINAL FISTULA.

Read before the Academy of Medicine, March 27, 1882,

By C. S. MUSCROFT, M.D.,
Surgeon to St. Mary's Hospital, Cincinnati, O.

J.R., a primipara, aged twenty-three years, after a severe labor and suffering, December 12th, 1879, was delivered at the end of three days of a dead child. The pressure of the head caused great sloughing of the external organs of generation and the walls of the urinary bladder, resulting in vesico-vaginal fistula and separation of the urethra from the bladder.

She was admitted into St. Mary's Hospital, July, 1880, in a broken down condition of health; on examination the vagina was found so much contracted it was with difficulty the index finger could be introduced, the buttocks and thighs were excoriated from the constant dribbling of urine, with the usual fetor exhaled from its decomposition. The orifice of the vagina was so small that a satisfactory exploration could not be made with the speculum.

Treatment was adopted for the improvement of the general health, and bougies introduced to overcome the contraction. This was continued to the first of September, when she was attacked with typhoid fever, from which it took her four months to recover. During this period the dilatation was abandoned, but was again renewed and continued until July 2d, 1881, without accomplishing the desired effect, except to a small extent. At this time an attempt was made to attach the remaining portion of the urethra to the bladder, but as was expected, the operation failed and the urethra sloughed away. The operation was tedious and difficult on account of the very small aperture of the ostium vaginæ.

Deeming it impossible to repair the rent in the bladder, and knowing of no plan by which the urethra could be restored, it was decided to close the vulva.

All the features of the operation and its results having been fully explained to the patient, she insisted upon its performance, saying she was anxious to have anything done which promised to relieve her from her horrible torture.

The operation for this purpose was made October 25th, 1881. The contraction of the vagina still remained, the posterior wall was denuded of its mucous lining and in an ulcerated condition.

Being convinced the mode of operating by cutting away the horse-shoe shaped portion of the labia and posterior part of the vagina would not answer in this instance, for the reason that the latter had been already destroyed at the time of parturition. I therefore decided to leave the orifice for the exit of the urine at the posterior commissure of the vulva, believing the artificial methods of applying either urinals, compresses or sponges could be better accomplished in this situation than if the opening had been left to correspond to the natural orifice of the urethra.

Chloroform having been administered by Dr. W. H. Wenning, the operation was performed in the presence of Prof. W. H. Taylor, of the Miami Medical College, Drs. J. C. McMechan and C. S. Muscroft, jr., members of the hospital staff, all of whom kindly assisted. The mucous lining, commencing at the sound tissue on the left side of the vulva, was freely removed and the incision carried forward to the anterior commissure including the labium minor and chitoris, both of which were freely removed, then carried backward on the opposite side, cutting away the other internal labium and mucous lining corresponding to the beginning. No serious hemorrhage occurred during the operation. Five sutures of polished annealed steel wire were used, being stronger than iron wire; the thighs were bound together and a solution of sulphate of iron, ʒss to the pint of water, applied externally by compresses and the same injected into the vaginal and pelvic cavity. Very little surgical fever followed, and the case progressed favorably until the parts were healed. The sutures, with the exception of the one nearest the outlet, were allowed to ulcerate away.

After removing the last suture the urine dribbled away constantly. To prevent this the intention was to apply some new expedient. I thought a wire could be passed around the outlet in such a manner as to close it at will, or a tube constructed that would remain in the cavity, around the sides of which the urine could not pass, and that a plug or other invention be made by which the urine might be drawn off at the desire of the patient.

While waiting for the parts to assume a better condition for further operation, the patient found she had some voluntary control for a short period of time, and the outlet was getting smaller. It was not long before she could retain the urine for an hour, and the voluntary control increased to such an extent that she could retain it for two hours. This condition existed for nearly a month before she was discharged, at which time she said the control over the part was improving.

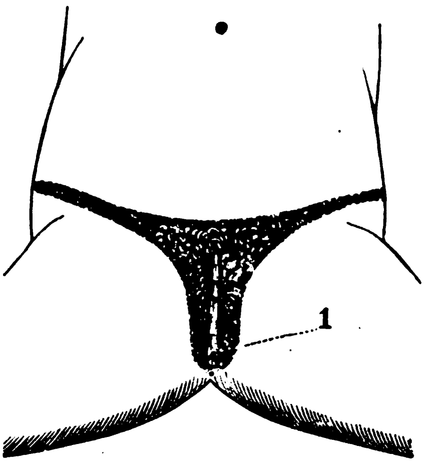
Undoubtedly, this operation is unique for closing the vulva, for the relief of otherwise incurable cases of vesico-vaginal fistula. It has (so far as can be learned), been followed by a more complete success than the former mode, where the opening for the exit of the urine corresponded to the situation of the natural outlet.

This was a very unfavorable case for even this operation, on account of the great destruction which occurred after parturition. Had the posterior wall of the vagina been in a normal state there would have undoubtedly remained a still greater voluntary power over the parts, and an artificial urethra could have been formed of any capacity to suit the views of the operator.

The patient suffers no more inconvenience during menstruation than at other times.

The question may arise, why the clitoris was was removed? The reasons were two, the first is the operation would be neater and more likely to succeed, and the other that it might have a tendency to repress the venereal desire, an object of serious consideration in all young women who may be compelled to submit to such an ordeal.

When this patient first came under my care she was in a miserable condition, broken down in body and mind, appeared aged far beyond her years, an object of disgust to others and loathsome to herself, entirely unfit for the pleasant association of relatives or friends, and the picture of utter despair. When she left the hospital for her country home she was a cheerful, healthy, happy and blooming looking young woman, in the enjoyment of all the privileges of ordinary social association, with power to retain her urine as long as many persons in ordinary health. The ulceration and excoriation of the buttocks and thighs had entirely disappeared, nor was there the slightest odor of urine about her person, or moisture about her clothing. She said the amount of urine passed was at times half a pint, but that the quantity differed.



I. URETHRAL ORIFICE.

The accompanying cut is a good representation of the parts operated upon on the day she left the hospital. Before her departure many of the leading members of the profession were invited to see the case, the names of those who did so were: Professors W. H. Taylor, Byron Stanton, W. H. Mussey, of the Miami Medical College; J. W. Underhill, of the Cincinnati Medical College; C. D. Palmer, of the Ohio Medical College; Dr. J. C. Culbertson, Editor of the LANCET AND CLINIC; Drs. J. H. Tate, Theo. Sittel, G. S. Mitchell, E. W. Walker, A. S. Dandridge, and Clara M. Ellsbury, M.D., none of whom had any knowledge of the operation ever having been previously proposed or performed.

In what way can the voluntary power to retain the urine in this case be explained? My own belief is that it is chiefly due to the contraction of the constrictor muscles of the vagina, in which view I am endorsed by others who have seen the case; others attribute the result to the sphincters of the anus, and others again give the credit to both sets of muscles.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of March 27, 1882.

J. L. CLEVELAND, M.D., *Pres't in Chair.*
W. H. WENNING, M.D., *Secretary.*

Stammering.

Dr. Georges Delon was introduced to the Academy by Dr. Whittaker and, on invitation, read an interesting essay on the nature and cure of Stammering (see page 317).

DISCUSSION.

Dr. Whittaker remarked that physicians are generally very skeptical as regards the cure of stammering, and he himself had little faith in this respect until he had an opportunity to witness the results of Dr. Delon's treatment in two instances. These were two young men, twenty to twenty-five years of age respectively; both had been patients of the speaker for several years and stammered, one badly, the other occasionally. The gentleman who had just been introduced to the Academy was recommended to him by Dr. Ravogli and he had put these young men under his (Dr. Delon's) charge. When they called on the speaker two weeks afterwards in company with their instructor all his former skepticism vanished. There was no vestige of their former defect in speech. He did not know how long this would last, but was very hopeful because these young men spoke with a coolness and precision quite in contrast to their former timidity and embarassment. One of them said he felt that his future was entirely in his own hands and both were exceedingly gratified at the result.

Some remarkable cases of this kind have been elsewhere reported. The speaker remembered having read some years ago an article from the French certifying to the remarkable cures of Dr. Chervin in Paris. This gentleman had a great reputation in the treatment of balbutics and his statements made to the Academy of Medicine of Lyons seemed almost incredible. A committee was appointed to investigate Dr. Chervin's cases and the results were so brilliant as to fully substantiate his claims. Most inveterate cases were placed under his care and watched by the committee day after day and the most convincing results were reported. Also the medical societies of Belgium and Spain accorded Dr. Chervin the highest praise. His method resembled that of Dr. Delon; the patient is directed first to take a long inspiration and then to speak slowly during a continued expiration. An important point is to suppress all emotion. Dr. Chervin always begins with enjoining a period of silence during the first week. In the second week the vowels are taught, then the consonants, and finally words and phrases; in fact, the patient is taught articulation anew. This was also Dr. Delon's plan with his two cases.

The disrepute in which any proposed method of cure in this defect of speech had fallen was propably owing to the fact that it was formerly attempted to overcome stammering by mechanical means, as by the interdental plate of Columbat or by the so-called fork of Stark. This is simply absurd. To insure success the cure must depend on training.

Dr. Ravogli remarked that besides being a cure for stammering Dr. Delon's method was a hygienic measure, as it enabled the expansion of the chest by inflating the lungs, an exercise which lessened the disposition to phthisis.

Dr. Wm. Judkins said he had a patient under treatment for two months (though not for this affection), who stammered terribly when using his ordinary voice, but not when he spoke in a whisper.

Dr. Delon replied that though he might not stammer at present, after a while he would undoubtedly stammer as badly in a whisper as with his ordinary voice. The voice has nothing to do with this habit. To a question what ought be the earliest and what the latest period at which a cure might be attempted, the Doctor replied that a child ought to be able to read, before that it would be very difficult to make the child comprehend his method; seven to eight years would therefore be about the proper age. As regards advanced age, the speaker had no more difficulty with persons over fifty than with younger subjects. Energy and will power will be a great assistance at any age.

Scirrhus of Superior Maxilla.

Dr. Ransohoff exhibited a tumor which he removed from a patient fifty-one years of age, about one week ago. This woman, who had lost all her teeth, was first seen by the speaker six or eight months ago, when she was sent to him by a dentist of this city. She had had pain in the left infra-orbital region for which she had consulted a physician who declared it facial neuralgia. When Dr. Ransohoff examined her he could detect nothing but a fullness of the alveolar process and lips of the left side of the face. A month later a fullness of the hard palate was detected and under the belief that there might be a cyst the antrum was punctured. A month ago the tumor involved the entire upper jaw extending over to the right side. The tumor was removed on Tuesday (March 21st) without any difficulty, after which the remaining bony parts were scraped. As the specimen shows, all of the palate bone, including the styloid process, was removed. The woman did not recover entirely but lingered on for five days until she died. Dr. Walker made a microscopic examination.

Dr. Walker said that the rapidity of the growth was such as first to suggest a sarcoma, the hardness of the tumor and the infiltration of the glands showed, however, that it was a scirrhus. It was remarkable that only one gland was infiltrated, whilst the others were free. The points of interest were the rapidity of the growth, the absence of greater infiltration and the firmness of the tumor. Scirrhus in these parts is rare, epithelioma being the more common form of cancer.

New Operation for Closing the Vulva in Vesico-Vaginal Fistula.

Dr. C. S. Muscroft, Sr., reported a new method of operating for vesico-vaginal fistula. (See page 320.)

DISCUSSION.

Dr. Ransohoff inquired whether the husband of the patient was alive?

Dr. Muscroft replied that if the gentleman would show the relevancy of this question to the subject he would answer it; in the speaker's estimation this circumstance did not affect the propriety of performing the operation.

Dr. Whittaker rejoined that this question was of due importance and ought to be answered. Before resorting to so radical and gross an operation careful investigation ought to be made whether no other operation to attain the desired result was possible. Such means ought to be tried first,as it is equivalent to unsexing the individual to entirely close the vagina. If no other operation was possible or if it was necessary for the life of the individual it might have been justifiable, otherwise other means ought to have been tried first. Americans are justly proud of their achievements in gynecology, but this operation surpassed the limits of conservative surgery. The question proposed by the previous speaker was perfectly relevant. The structure of our modern civilization rests in a large degree upon the relations of sex. This patient might not be so well satisfied later with the results of this operation.

Dr. Buckner recalled a similar operation performed by the late Prof. Blackman at the Cincinnati Hospital. Although this surgeon had closed the vulva in a patient similarly affected several times, the result was a failure because the women herself repeatedly tore open the vaginal orifice.

Dr. Muscroft said that he was utterly astonished at some of the criticisms made against a recognized and an established operation. When vesico-vaginal fistula is incurable it is *always* justifiable to close the vulvar opening. It is unfortunate that the patient is young and unmarried; for as the question of the sanction of her husband had just been put he would answer that she was not married. All the conditions were explained to her beforehand and she immediately gave her consent to the operation, preferring a life of comfort hereafter to the gratification of sexual indulgence. He did not bring up the subject in order to discuss the propriety of performing the operation but to elicit a discussion on its new form.

Dr. Thad. A. Reamy said that he had also been courteously invited by Dr. Muscroft to see this case, but found it impossible to do so owing to other engagements. From the description given by the reporter of the case he thought the responsible party in the first place was the accoucher, probably a midwife, who must have been guilty either of ignorance or gross neglect. Laceration of the perineum may sometimes be unavoidable, in rare instances the bladder may be subjected to such pressure as to result, after sloughing, in vesical fistula, but he could not conceive of conditions, sloughing of the perineum, much of the vagina, part of the bladder, as following a properly conducted labor. If there was such disproportion between the head and outlet as to make this amount of delay necessary, then the labor should have been terminated by forceps or Cæsarean section, or, if the child was dead, by craniotomy.

The damage having been done, however, he must now criticise the first steps in Dr. Muscroft's management of the case. He has stated that the vagina was so closed by bands of cicatricial tissue when the case came under his charge and he commenced treatment preparatory to operation for cure of the vesico-vaginal fistula, that he found it difficult to introduce the index finger far enough to touch the os uteri; that for many weeks he sought to dilate the vagina to overcome this cicatricial contraction by bougies, etc.; that, failing in this, he was at last compelled to operate through the narrow vaginal opening, thus (seriously embarassing the operation; and, in the speaker's opinion), defeating the good results which so skillful an operator as Dr. Muscroft would otherwise have secured. For it must be remembered that the cicatricial narrowing of the vagina not only prevented room for manipulation and free access to the fistulous borders, but likewise prevented the dragging of the uterus forward and with it the bladder so as to allow approximation of the same to the base of the urethra so as to prevent the latter structure from being much upon the stretch after the sutures were inserted, conditions absolutely necessary to success. The speaker must attribute the sloughing of the urethra which followed this first operation for cure to the causes above indicated. In his opinion if the operator had freely incised the cicatricial bands in all directions, freely dilated the vagina, and kept it dilated, by a large glass or hard rubber vaginal plug until healing was complete, the result would have been different. It is well known that cicatrical tissue will not stretch—it must be cut. The speaker thought that Dr. Muscroft must be mistaken as to the extent of vaginal sloughing, especially posteriorily, since the amount of cicatrical tissue described as existing, as well as the amount and location of tissues concerned in the ultimate operation, would sustain this doubt.

When the urethra is destroyed its restoration is extremely difficult; it has been done in a few instances. The speaker had himself succeeded in one case in obtaining a good result. He had dissected tissue down from either side, turned it over backward and adhered the edges, so as to secure a very good meatus and a portion of urethra. In this case the base of the urethra had not been entirely destroyed. In another case he had made an opening through the tissue about the sub-pubic liagament, and then dissected down so as to strengthen the lower wall obtaining an opening through which the urine passed, but the sphincter power was not perfect.

Emmett had succeeded by similar methods in several cases. Dr. R. would frankly confess, however, that he had encountered failure in his attempts to restore a urethra oftener than success. In the two cases of success, he had been compelled to make in one instance three operations, in the other four. Dr. Muscroft's patient being a comparatively young woman, every device which gynecological surgery could possibly furnish offering prospects of success, should have been resorted to, before the final decision to close the vagina, for it cannot be denied that this procedure is a matter of serious import.

Nevertheless, it is not so serious as leaving the woman utterly unable to retain her urine. In this condition she is an object of pity, which no words can describe, loathsome to herself and disgusting to those about her. If closing of the vagina can effectually free her from this state and enable her to retain the urine for several hours, and then control its discharge with the facility reported in this case, here is a final answer to any criticism of the operation itself. Both the patient and the surgeon are to be congratulated in the warmest terms; she for the inexpressible relief vouchsafed to her, he for the genius of conceiving and skill in executing an operation bringing such extraordinary results. That the results in this case are not exaggerated no one will question. The very manner and methods of the report show straightforward truthfulness in all its statements.

The speaker doubted very much whether the power by which the urine is retained is truly sphincter power for anatomical reasons which he would in a moment assign. But if this power to retain continues, this is neither here nor there; success is an end to criticism and a warrant for commendation which for his own part he would most cheerfully and enthusiastically express.

He thought it quite possible that since the orifice left by Dr. Muscroft is very far back, just in front of the anus, and since the tissue through which it passes must be of very considerable thickness, the retentive power may be due rather to valvular than sphincter action. It is quite probable that the closed vulvar walls and the anterior portion of the vagina constitute a considerable pouch in which the urine may accumulate for one or two hours, especially when the woman is in the erect posture, before it arises to the level of this orifice. The escape then being effected by the water line and pressure owing partly to a change of position. The diagram exhibited as well as the text in the report make it appear as above stated that the exit of the orifice is just in front of the anterior margin of the anus in the posterior border of the perineal body.

So far as external muscular structure is concerned, this would be at the junction of the external anal sphincter and the transverse perineal muscles. The action of these two latter muscles arising as they do from the ischial rami and from the anterior aponeurosis of the perineal septum, must be antagonistic, having a tendency therefore to separate the walls of the artificial openi here described, rather than exert any sphinct power. The bulbo-cavernosus muscle, however, being more powerful and acting as vagina sphincter, might slightly favor contraction. Indeed it would, but it is rather far removed in it ascent to either side of this new orifice to secure such a result very effectually. Moreover, in the extensive sloughing which is described by the operator, this muscle must have been to a great extent destroyed, especially at the lower portion near the perineal body at its origin. The pubococygeal, still more powerful in its action, could yet hardly act as a sphincter at this point, being rather high up. But it might be after all that new sphincter power is developed under stimulation of physiological necessity. The anal sphincter is behind the orifice.

It was mentioned that the clitoris was removed for two reasons: first, in order to insure a neater operation; and, secondly, to remove the sexual desire. The first reason given is beyond criticism, and the second would be if it were true that removal of the clitoris will take away the sexual desire; but it is now believed that this property does not reside in the clitoris, but in the lumbar cord. However, it is good to take away this gland in order to lessen the chances of masturbation. The reporter of the case said that unfortunately the patient was unmarried; he, the speaker, considered this most fortunate.

Selections.

MEDICINE.

THE CEPHALIC MURMUR OF ANÆMIA.—In the early part of last year, M. Tripier, of Lyons, published an interesting memoir[1] upon an important phenomenon which he observed in many cases, more especially in conditions of anæmia.

By means of an abstract in the *London Medical Record*, I brought his investigations before the notice of the profession in this country soon after the appearance of his paper.[2] In anæmia, and certain associated states, Tripier found that a murmur could be determined by auscultation over the cranium. He described it as always systolic in rhythm, never continuous, not modified by change of posture, but altered by pressure on the carotid arteries, and varying with the general condition of the patient. In a subsequent contribution[3] he has reconsidered the conclusions at which he previously arrived. He finds most of his statements fully supported by the evidence which he has accumulated, but sees reasons to modify his former conclusion regarding the position of the maximum intensity of the murmur.

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[1] Recherches Cliniques sur le Souffle cèphalique chez l'Adulte (*Revue de Mèdecine*, vol. i, Nos. 2 and 3, February and March, 1881.

[2] London Medical Record, April, 1881.

[3] Note sur le Souffle Cèphalique de l'Adulte considèré au niveau des Règions Orbitaires (*Revue de Mèdecine*, vol. i, No. 10, October, 1881).

In his first paper, he described it as being most distinct over the temporal region, especially over the right side. But it had not then occurred to him to investigate the state of the orbit; and, since writing that memoir, he has discovered that on auscultation of the eyeball the murmur can be heard more clearly in that position, than in any other part of the cranium. He points out that the murmur is clearly of local origin, as it not unfrequently exists apart from any cardiac murmur, and cannot, therefore, be transmitted from the heart. It gradually gains intensity as the anæmic state becomes more profound, and when the patient improves it steadily diminishes.

The murmur over the orbit is heard at an earlier period than that in the temporal or other region of the head, and, as health is regained, it is longer in disappearing than that heard elsewhere.

Tripier regards this murmur as arising in the terminal portions of the internal carotid artery, and thinks that its maximum intensity over the orbital region is a strong argument in favor of such an hypothesis.

I am ot opinion that the explanation given by Tripier of the mode of production of this murmur is inadequate, and I wish to advance another hypothesis which appears to have more evidence in its favor. Such is my reason for entering into a consideration of this question at present; and, in order to explain the phenomenon with greater advantage, I propose, in a few words, to narrate an illustrative case:

Margaret A., aged 36, married at the age of 16, and now mother of nine children, consulted me lately at the New Town Dispensary. She complained of palpatation, with swelling of the legs and feet towards evening; she had but little appetite, and suffered from menorrhagia and leucorrhœa. There was no history of rheumatism nor of other antecedent malady, and the family history was good.

The patient's face was extremely pale, and the conjunctivæ, lips, gums, and tongue, were blanched in the highest degree. No impulse was visible in the precordial region, and there was no swelling or oscillation of the cervical veins. The apex-beat occupied the fifth intercostal space, two inches from the mid sternum. In the mitral area a loud blowing, systolic murmur was heard, and there was an independent systolic murmur in the tricuspid area. Over the left auricle, the auricular murmur of Balfour was very distinct. A loud *bruit de diable* was audible over the jugular veins. It had a systolic augmentation of intensity, and, on the application of greater pressure, was easily converted into a distinctly musical note.

This is an ordinary clinical picture of anæmia in an advanced stage, such as affords probability of the presence of the cephalic murmur. On auscultation of the cranium, the murmur could be determined in three positions. When the stethoscope was applied to the closed eye-lid, a low murmur was easily distinguishable. In rhythm it was somewhat later than the apex-beat, and slightly followed the carotid pulse. It was accompanied by the dull continuous rumble caused by the muscular contraction of the orbicularis palpebrarum in its closed state, by the irregularly intermittent noise produced by the sympathetic movement of the eyelid when the opposite lid winked, and by the respiratory murmur propagated through the cranial bones. These three acoustic phenomena are pointed out by Tripier as likely to mislead the unwary observer. The continuous muscular sound cannot be got rid of, but the irregular noise of winking can be stopped by placing a finger upon the opposite eyelid, and the respiratory murmur necessarily comes to an end when the breath is held. When the stethoscope was applied over that part of the occiput corresponding to the torcular Herophili, a systolic murmur was also heard, but less distinctly than that in the orbital region; and, lastly, on auscultation over the mastoid prominence a very faint murmur of systolic rhythm could be made out. No murmur could be detected over any part of the head. The murmur was not perceptibly influenced by change of posture, but slight pressure on the carotid arteries diminished its intensity, and forcible compression of these vessels entirely abolished it.

Such is the usual condition, according to my experience, when the anæmia is tolerably well marked. In all cases the murmur is most distinct in the orbital region; in the other situations it is comparatively faint. My students at the dispensary can always hear the former with ease, but the latter can only be detected by those of them who have undergone considerable training in auscultation.

In cases of anæmia, it is not uncommon to find a continuous murmur over the part corresponding to the torcular Herophili; sometimes this murmur, like the venous hum in the neck, presents a systolic accentuation. Since reading Tripier's earlier paper, I have not been able to determine the presence of this continuous hum over the occiput, and have only observed the faint systolic murmur as in the case above recorded. It is only in very severe cases that the occipital murmur is continuous.

If the murmur originated in the terminal parts of the internal carotid system, it should be found to wane in intensity with distance from that system. It is not so, however; as above remarked, the occipital is usually more distinct than the mastoid murmur.

The position of the greatest intensity of the murmur is of great importance. It is most clearly heard over the orbit, the mastoid eminence, and the occipital protuberance. This fact furnishes a key to the question. These three situations are closely related with the cavernous sinus, the torcular Herophili, and the lateral sinus; and I am of opinion that the murmur is produced by fluid veins within these sinuses: in other words, the murmur is of venous origin. It will at once be said that the murmur ought to be continous, like the *bruit de diable*, if it arise from vibrations of the fluid contents of these venous channels. But, as in the case narrated, the venous hum is frequently found to have systolic augmentations of intensity. These are caused by the pressure of the large arteries upon the venous trunks, during the distension of the arterial walls, consequent upon the cardiac systole. This pressure creates additional waves in the contents of the veins, and the acoustic expression of these waves is increased intensity of sound. The internal carotid arterty is in very intimate relationship with the contents of the cavernous sinus, being practically surrounded by the venous blood. When the anæmic condition is present, therefore, with its predisposition to the generation of intravenous ripples, the pulsations of the artery excite fluid veins in the blood contained within the sinus. In this, I think, we have a sufficient cause for the production of the orbital murmur. And similarly we may account for the occipital and mastoid murmurs. The internal jugular vein, at its origin and in its upper part, is so closely connected with the internal carotid artery, that the shock of the arterial pulsation is always communicated to it. Hence, in the anæmic state, fluid waves are transmitted upwards to the blood within the cranial sinuses, and cause a murmur in situations where the vibrations come to a focus.

It may pertinently be asked, Why is the murmur louder over the occupit than in the mastoid? And why is it more distinctly heard over the eyeball than in either of these positions? The answer is not difficult to find. The structures lying between the cavernous sinus and the closed eyelid are of somewhat similar density, or to put the fact in different language, there is a continuity of soft tissues from the cavernous sinus, where the sound is generated, to the surface of the globe of the eye, were it is perceived. On the other hand, a murmur arising within the torcular Herophili must cause vibrations in the osseous portion of the occiput, in order to give acoustic manifestations. Physical laws tell us that sound is better transmitted through media of similar density, than where it is propagated through media whose density differs considerably. This is the reason why the orbital or cavernous murmur is more distinct than the occipital. And in the same way the murmur arising at the bend of the lateral sinus has to pass through the temporal bone; but this is broken up by the mastoid cells containing air, so that there is a physical reason for the greater weakness of the vibrations in this position. From the occurrence of a continuous hum over the torcular Herophili, we should expect to find a similar murmur over the orbit and mastoid region. That there are continuous vibrations, I most firmly believe; but, except in cases of profound anæmia, these are too feeble to reach the ear, and only the systolic augmentation of the sound is heard. Further observations will probably prove that there is a continuous hum in very severe cases.

As regards the place occupied by the cephalic murmur, in the order of development of the physical signs of anæmia, it may be remarked that it is the latest to appear. As far as my experience goes, the following is the sequence of phenomena: venous hum over the cervical veins; accentuation of the second sound in the pulmonary area; systolic murmur over the left auricle, with impurity of the first sound at the apex; systolic murmur in the mitral and tricuspid areas; and, lastly, cephalic murmur.—Dr. G. A. Gibson in *British Medical Journal*

A THEORY OF THE ADAPTATION OF GERMS TO SOILS, AND OF IMMUNITY FOLLOWING INOCULATION.—Dr. Grawitz, of Berlin, has been engaged for seven of eight years upon a series of experiments which have an interesting practical bearing upon theories of the immunity following exposure to the influences of poison by inoculation or otherwise. Occupying himself with the larger fungi—such as aspergillus and penicillium, whose spores are several hundred times the size of a micrococcus—he obtained results which he made the subject of a paper in Virchow's *Archiv* (Band 81) and subsequently of an address before the Congress of the German Surgical Society last April. This address, published in Langenbeck's *Archiv* for July, 1881, was to be the prelude to further and fuller reports of his observations. In the mean time Grawitz's published results and deductions therefrom have been attacked, and their value badly impaired by Koch, Gaffky, Lichtheim, and Löffler,[1] and a lively discussion started in the Berlin Medical Society and Berlin Health Bureau, found its way into their Transactions and into the medical journals.[2]

The whole has an instructive bearing upon the easy sources of error which surround the worker in germs, even when of so large a size as the fungi, and upon the relation between special germs and specific diseases.

Grawitz believed that his long-continued and extensive experiments justified him in announcing that certain fungi, ordinarily harmless, and not developing in the blood of warm-blooded animals, could, by cultivation and adaptation, be changed in character in such a manner as to flourish in the system after inoculation, and to produce fatal consequences; from being simple that they became malignant organisms. These results were announced as the basis of "a theory of adaptation of the mould-fungi in general." The further application of such views, if well established, to the poisons of such diseases as typhoid fever and cess-pool fever, scarlatina, and diphtheria would be immediate.

On the other hand, "It occurred to Dr. Grawitz[3] that as the fungi could be adapted to a higher degree of vital energy, enabling them to enter into a successful struggle with the tissues for existence, so the less resisting of those tissues might gradually be adapted to a higher degree of that special energy needed to resist the fungus. He sought to bring about that adaptation of the more helpless tissues in two ways: first, by introducing into the body a considerable quantity of the partially adapted (or half malignant) fungus; and secondly, by introducing a very small quantity of the perfectly adapted (or highly malignant) fungus; in the first case the vital powers of the fungi would be so weak that even the kidney would make existence hard for them; and, in the second case, the quantity of the fungus would be so small that the few centers of fungus growth resulting would not endanger the life of the dog or rabbit so inoculated. These problematical adaptations of the tissues having been duly brought about, Dr. Grawitz proceeded, after four to six weeks, to give the same animals such a dose of malignant fungus as would ordinarily have killed them in three or four days, and as, in fact, did kill the control-animals beside them. In the case of those which had been adapted or made accustomed to a large quantity of weak fungus the result was that they either resisted entirely the full dose of the malignant fungus or that the due effects of the latter were delayed twelve or fourteen days. In the case of the animals whose tissues had been habituated by means of a small dose of the malignant fungus not a single one of them succumbed. A number of these latter were killed after a time, but neither the kidneys nor any other favorite seat of the fungus growth showed the ordinary yellowish nodules. It is worthy of note that protection against the malignant aspergillus was afforded not only by the slighter inoculation of the same fungus but equally through previous adaptation or habituation with penicillium and oïdium lactis. As a controlling experiment the protective influence of uncultivated aspergillus and penicillium was tried, and was found to be *nil*.

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[1] Mittheilungeu aus dem Kaiserlichen Gesundheitsamte, Berlin, 1881.

[2] Berlin. klin. Wochschr., Nos. 45, 46, 47, 52.

[3] British Medical Journal, vol. ii., p. 785, 1881.

"Such is the theory of Dr. Grawitz to account for the success of the practice of vaccination and inoculation for anthrax and fowl cholera. A certain fungus can be, as it were, educated up to living inside the human body, and, in like manner, certain tissues of the human body, otherwise an easy prey to the fungus, can be educated up to resisting the latter. That seems only fair, and as it should be, *se non e vero, e bon trovato.* The body has, further, the best of it, in that it takes only one trial to adapt its tissues, while many successive cultures are required to adapt the fungus. In both adaptations heredity comes in; the gradually acquired invasive properties of the fungus are retained by successive crops of spores for many months, and the more rapidly acquired resistant properties of the tissues are transmitted to successive generations of cells for a corresponding period. After a time the penicillium or aspergillus loses its acquired power of living in the body, and returns to its natural state of a mould living on bread; in like manner the resisting power of the cells of the body is weakened in the course of their successive renewals, and is ultimately lost."

But, as we have stated, these results and the consequent Anpassungstheoric der Schimmelpilze were hardly in type before other investigators, and among them so eminent an authority as Koch, detected fatal defects in Grawitz's methods, his cultivations were not strictly guarded against mixed races of fungi, were not "pure," and a fungus—aspergillus glacus—which he had treated as innocent under ordinary conditions was shown to possess malignant properties without being subjected to even so mild a form of cultivation as an increase of temperature.

The net results of this controversy and these labors seems to be that Dr. Struck, director of the Royal Health Bureau, Berlin, thinks that the present state of our knowledge may be expressed thus: "that the malignant fungi are specific organisms, which are begotten by and beget only their like," and R. Koch somewhat more guardedly though as positively announces that the reverse has yet to be proved.

The study of fungi, however, indirectly had the result of leading Israel, a fellow laborer of Grawitz, to the description of actinomycosis as a disease in man, and his investigations in turn suggested to Ponfick the existence of precisely the same disease in cattle.—Geo. B. Shattuck in *Boston Med. and Surg. Journal.*

ALVEOLAR PERIOSTITIS AS A SIGN OF DIABETES MELLITUS.—Dr. Magitot read a paper on this subject before the Paris Academie de Médecine, in which he forms the following conclusions: 1. The examination of the mouth furnishes a constant sign of diabetes mellitus. 2. This sign consists in a lesion of the margin of the alveolar processes designated under the name of alveolar osteoperiostitis. 3. This manifestation of diabetes in some cases amounts to a certainty in the diagnosis. 4. It possesses stages corresponding with the stages of the diabetes. 5. In the later stage the alveolar margins become softer and undergo osseous degeneration, accompanied by destructive disease of the gums surrounding them.—*Louisville Med. News.*

WINE OF THE EXTRACT OF COD LIVER OIL.—Some years ago, says a writer in *Le Progrès Medical*, the use of a medicinal extract of cod-liver oil, which should contain all the chief constituents of the oil, without the offensive ones, was recommended. By means of concentrating at a freezing temperature, Dr. Vivien has recently obtained an extract which still had, however, the smell and the disagreeable and nauseous taste of the oil itself. The inventor was accustomed to give this extract in the form of pills, but he now finds that it may be given advantageously with certain kinds of wine, when it loses its taste and odor. By this means a new and very active preparation is obtained. The following is Dr. Vivien's formula:—Old Grenache wine, 1000 grams to medicinal ext. of cod-liver oil, 10 grams. The mixture should be kept for a month. Each dessert-spoonful will contain twenty centigrams of the extract. The presence of the extract can be detected by pouring a little of the wine into the palm of the hand and rubbing it briskly, when a characteristic odor will be exhaled.—*Med. Gaz.*

PILOCARPINE IN DIPHTHERIA.—(F. Leprevost, *Revue Méd. Franc. et Etrangère.*)—There are few drugs whose therapeutical applications have been so multiplied as those of pilocarpine. Every week the medical press registers new results obtained by the use of this agent, in the treatment of maladies as diverse in their nature as in their seat and therapeutical indications. Sometimes less favorable results, more often greater success than is recorded; nearly every day we see them contradicting one another.

There seems to be more contradiction and disagreement in regard to its use in diphtheria than in any other disease.

After the publication of the *Memoir* of Guttmann, in October, 1880, Weber and Lebars used pilocarpine in the treatment of diphtheria. The first in a child with croup, on whom tracheotomy had been performed on the fifth day. The second in a series of cases in the Children's Hospital in St. Petersburg.

Of course the merit belongs to Guttmann. He employed pilocarpine for the first time in seven members of the same family infected with the disease. The rapid recovery ensuing in the space of 2½ days encouraged him to repeat his trials; 66 new cases yielded to the same treatment, and among these 15, though of an extremely grave character, rapidly and constantly recovered. These happy results were also observed by Geldner and Dylewski, who had closely followed Guttmann as to the doses and mode of administration.

The physicians of Cronstadt recommended its administration by the mouth—except in urgent cases, where it is necessary to get the effect very rapidly, the hypodermic use of it should be practiced. In such cases he injects about 1-60 gr. Ordinarily he gives every hour a teaspoonful (or more according to the age) of the following:

For children—

Muriate of Pilocarpine,	gr. 1-30—1-15.
Pepsin, ...	gr. i—iss.
Muriatic Acid, .	gtt. ij.
Distilled water . .	℥ ij.

M.

S. Teaspoonful in coffee every hour.

For adults he uses—

Muriate of Pilocarpine,	gr. 1-20[1]—iss.
Pepsin, ...	gr. xxx.
Muriatic Acid, ...	gtt. xxx.
Distilled water, ...	℥ vj.

M.

S. Tea- to tablespoonful every hour.

Each dose should be followed by an equal quantity of Hungarian wine (according to the northern physicians, whisky or brandy is preferable.—*Translator.*) Give every hour, night and day, awakening the patient if necessary. Guttmann remarks that after several hours sleep, the dryness, the inflammatory phenomena, the tumefaction and the deposit in the throat are markedly increased. The treatment is completed by applying a cold compress to the neck, and giving coffee or beef tea every hour, with cold water and ice *ad lib.*

Guttmann's formula has been modified as follows:

Muriate of Pilocarpine,	gr. 1-20–1-15.
Distilled water, . . .	℥ x.
Spanish wine (Port or Sherry?)	℥ x.

M.

S. Two teaspoonfuls every half hour.

Lepidi-Chiotti, with a view to prevent the vomiting, which is not rare in the above practice, prefers to administer the drug *per rectum*. He uses an injection containing 6·13 (say one-half) gr. of pilocarpine to ℥ iss of the vehicle, and has obtained salivation in ten to fifteen minutes.

The hypodermic method is more prompt and energetic. In case of a child six years old, Dr. Lemange injected at *one* time 1·65 gr. More moderate doses will generally suffice to produce diaphoresis and salivation. Individual idiosyncrasies should not be forgotten.

It has been remarked that the physiological phenomena of pilocarpine are inconstant and variable. Neumeister, after strict and scientific inquiry, made the following conclusion:

Pilocarpine is inconstant in its sialagogue effects. When salivation is produced it is variable in its abundance, and in the time of its appearance.

This is a grave reproach, since the sialagogue effect is just what we want to detach and expel the false membrane.

It is true that every time salivation is produced, it brings away more or less of the false membrane. Dr. Gerard's observation is very demonstrative: "Two minutes had scarcely elapsed after the administration when the sialagogue effect manifested itself in jets, from all the glands, salivary as well as mucous; a violent fit of coughing came on, clear and well toned, when for two days the cough had been aphonic. Finally during a violent emesis, the child expelled spontaneously, through the nose and mouth, a veritable cast of the affected organs; the child recovered.

H. Archambault, in a paper read before the Therapeutical Society, likewise recognized, that under the influence of pilocarpine, the false membranes were detached more quickly and in greater abundance than usual.

In this light, pilocarpine is a most valuable remedy; above all when it can expel the false membranes from the trachea and bronchi. The mucous membrane of the air passages participates in the systemic effect produced by the pilocarpine, the false membrane covering it being generally less adherent than elsewhere, probably due to the structure of that mucous membrane, and to the constant change in the calibre of the bronchioles. So that we should use pilocarpine in croup or pseudomembranous bronchitis whether tracheotomy has been performed or not. Dr. Le Moyne has published a remarkable case of recovery from these conditions. He had performed tracheotomy on a child six years old, after two violent attacks of suffocation. With every injection of pilocarpine, and in a very short time, there was an expulsion of tubular false membrane, leaving the child quiet and in no danger of suffocation. It is different with the membrane formed in the pharynx and and nasal cavities. These are directly accessible, and generally easily detached by the aid of forceps, or astringent injections or lotions; and the favorable action here would not compensate for its depressing effect on the system.

But the false membrane is not all in diphtheria. It often suffices to imperil the patient's life by asphyxia; but often one dies from the diphtheritic intoxication, when the membranes have disappeared for some time, or are not very abundant. It is the diphtheritic poison then that constitutes the danger. But, some physicians, among whom we mention Lepidi-Chiotti, attribute to pilocarpine a sort of *depurative* action on the system, favoring the elimination of the poison. This is a gratifying hypothesis which cannot yet be demonstrated, since the nature of that poison is still unknown. However, in the *majority* of cases in which recovery took place, the disease was comparatively mild, and not one, except a case of M. LeReboullet, where pilocarpine was the only remedy employed, when the disease was *toxic*, the effect was only marked in a few cases. Often, on the contrary, it added to the gravity of the situation; violent and persistent vomitings, diarrhœa, often a state of prostration and collapse, and sometimes syncope and collapse were produced.

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[1] A mistake I think—the *Revue* says 0,80—0.05 Centig. *Translator.*

We have endeavored faithfully to review the statements of writers. Some are very enthusiastic over Guttmann's method, others are exceedingly sceptical. In the following conclusions which we abstract from his paper, M. Paynardeau wisely teaches us to avoid both extremes:

1. Pilocarpine has, by its sialagogue properties, a real but inconstant and capricious action.
2. False membranes of the air passages, inaccessible to local means, can be detached and expelled by the aid of pilocarpine. It is then indicated in croup and pseudomembranous bronchitis before and after tracheotomy, but only when danger is threatened from the membrane itself, and not from the diphtheritic poison.
3. Pilocarpine cannot facilitate elimination of the diphtheritic poison by its sudorific action. (It prevents neither the reproduction of the false membrane nor the appearance of diphtheritic paralysis).
4. It may produce in the digestion and circulatory apparatus such accidents as vomiting, diarrhœa and collapse, which add to the general bad state of the patient.
5. It is formally contra-indicated in all cases where there is reason to suspect alteration of the cardiac muscle.—Translated by W. G. Eggleston, M.D.—*Gaillard's Med. Journal.*

Treatment of Diphtheria by Cyanide of Mercury.—Dr. Rothe (*Deutsche Med. Wochenschrift*, 1881, p. 467.) reports thirty-four cases of diphtheria successfully treated. He uses the cold pack, hourly changed, thrice daily, rapid pencilling of the gums, etc., with the following:—Acid. Carbolic., pt. j; spir. vini gal., pt. j; Tincturæ Iodini, pt. j; Glycerinæ, pts. v. Internally, the following: Hydrarg. Cyanid., centigr. 0.01; Aquæ destillat., grm. 120; Tinct. Aconiti, grm. 1. Misce. Dessert-spoonful, every hour. For young children the dose is be proportionately diminished.—*Med. Gaz.*

The Pathology of Uræmia.—By Feltz and Ritter, Astachewsky, and Demjakow.

Feltz and Ritter (Paris 1881) have come to the conclusion, on the basis of a large number of experiments, that the phenomena of uræmia are due to the accumulation in the blood of the inorganic constituents of the urine, especially the potash salts. They found that animals whose renal arteries were tied, the longer they lived the more urea, creatine, and ammonia were found in the blood; but that the introduction of these salts into the blood of animals whose renal arteries had been ligatured, did not hasten the uræmic symptoms, while the injection of fresh urine did. This was not from simple increase of blood-pressure, as similar quantities of pure or acidulated water gave negative results. They reckoned the quanties of urea, urates, hippurates, creatine, creatinine, leucine, tyrosine, taurine, anthine, etc., which would be formed during three days (the time in which death usually followed after ligature) and found that injection of this quantity of each produced no effect. The same negative results followed the injection of the ammonia derivative, of the extractives, urea, and urinary ferment, also chlorides, sulphates, and of ammonia. On the other hand, urine, from which the organic substances and earthy salts were removed, was rapidly fatal, and was so in proportion to the amount of potash salts contained in it. Also, they found the same results from the injections of fluids containing potash; for example, they found that a dog, weighing fifteen kilogrammes, was killed by a dose of chloride of potassium equal to two decigrammes per kilogramme of body weight, others were killed by ten to fifteen centigrammes. The minimum dose of phosphate of potash was rather larger, twenty-five centigrammes per kilogramme. With chemically pure solutions, the toxic action was still more marked and quicker. The soda salts were innocuous in doses of one gramme per kilogramme. The earthy salts were so equally. Finally, an increase of the potash salts in the blood was found in the animals dying of uræmia from ligature of the renal vessels.

Astaschewsky (*Petersburger Med. Woch.*, No. 27, 1881) had independently come to the same conclusion as the above. He found no effect from urea or creatinine, whilst the injection of the mineral salts of the urine, in amount equal to the three days' equivalent, caused uræmia. When the potash salts were removed, no decided effect followed.

Demjakow (*Petersburger Med. Woch.*, No. 28 observed a uræmic patient with a strong ammoniacal odour. He injected urea and ferment without distinct results, until he used the three day's equivalent. Pure urea hastened the uræmic attacks by twenty-four hours. Urea and ferment produced attacks in twenty to forty minutes; simple ferment gave no result. Ammonia was never found in the blood or expired air during the attack, but often, in the former, after death. He frequently obtained no conclusive results from his experiments.—Robert Saunby, M. D.—*London Med. Record.*

SURGERY.

Iodoform Dressings.—M. Marc Sée, at the Surgical Society of Paris, Nov. 30th, said: I have for sometime employed iodoform for dressing all sorts of ulcers,—for recent wounds, the result of surgical traumatism, in which immediate union is impossible; in lacerated wounds, from which the pus does not readily escape. In this case I fill the cavity with powdered iodoform. Immediately all accidents cease. It is a dressing extremely simple, easy of application; one which has none of the complications of Lister's, and which succeeds at least as well. It has few drawbacks; however, it is expensive, and produces a bad smell,—besides, we must consider the danger of iodoform poisoning, a danger hitherto too little studied.

M. Despres had employed iodoform for dressing wounds twice, both times the patient thanked his physician. He asked M. Sée how long ulcers of the leg that he had treated took to heal? He guaranteed, for his part, to cure any simple ulcer with rest and poultices. Statistics were necessary.

M. Terrillon had seen, in Vienna, in the service of Billroth, iodoform extensively used in the dressing of wounds,—in fact, all the dressings were made with iodoform, and there was no smell in the wards. They take ordinary gauze, soak it, dry it, and rub in the iodoform. They thus obtained an iodoformized gauze, of easy application to wounds. It is readily rendered inodorous by essence of bergamot or mint, which, however, only lasts for four or five days, and requires renewal.

After an operation on bones M. Billroth closes the wound with the gauze, and leaves the first dressing for seven or eight days. After these eight days there is no odor, and has been no discharge of liquid. The patients thus dressed have no fever. Also, in several cases of total extirpation of the uterus by the vagina. Billroth is said to have obtained very good results by plugging the vagina with the iodoformed gauze, and leaving it there eight days.

M. Verneuil said there was nothing equal to iodoform for soft chancres, both in efficacy and rapidity of action; also in obstinate scrofulous ulcers, with undermined edges. The offensive smell could be overcome by adding equal parts of camphor in powder. In a word, this is a very precious topical dressing.

M. Trélat had long employed iodoform. When Lister's dressing could not readily be obtained in Paris, he then gladly had recourse to iodoform. It is a very good dressing for exposed wounds, it causes in them a firm coagulum, mixed with blood. Suppuration does not occur under this kind of crust.

M. Despres insisted that equally good results were obtained with every other dressing, and challenged M. Sée to compare statistics.

M. Trélat replied.

M. Despres said that he merely claimed as good results, not better; and urged his treatment had the advantage of cheapness.

M. Sée, in concluding, related a case of hysterectomy, in which the pedicle had been returned to the abdomen after having been dressed with iodoform. The result was excellent. MM. Trelat and Verneuil had spoken of the good effects on exposed wounds, he wished, on the contrary, to call attention to the services rendered by it in deep, irregular wounds, difficult to cleanse. These wounds are, to my mind, a veritable triumph for iodoform, which has been claimed as a true specific for tubercle. There have been obtained cures of fungous white swellings, by injections of iodoform, disolved in ether. Iodoform does not act, as M. Despres believes, like tincture of iodine, which only acts during some minutes, whilst the action of iodoform is maintained for more than eight days.—*Gazette des Hopitaux.—Canadian Jour. of Med. Science.*

LAPAROTOMY IN INTESTINAL OCCLUSION.—Dr. Claudat and Dr. Boekel publish three cases of laparotomy for intestinal obstruction by constricting bands (*Revue de Chirurgie*), Dr. Claudat' case terminated fatally. He regards this resul as due to delay in the operation, and failure t divide one bridle which constricted the intestine although two occluding bands had been severed He therefore insists upon a prompt resort to surgical measures for the relief of the strangulate intestine, as soon as the diagnosis is definitely made and the ordinary methods of relief have failed. He regards it as almost certain, that the difficulty attending the operation and the chance of failure are in direct proportion to the time which elapses, after the strangulation, until an operation is undertaken. To avoid an error o leaving some constricting band undivided, Dr Claudat advises the following of the course of the small intestines from the cæcum upward, removing all constrictions until a coil of healthy bowel is reached, according to the method proposed by M. Duplay. He recalls the fact that the bowel will be empty below the principal obstruction. Dr. Boeckel's two cases recovered, although the operations were performed on the sixth and thirteenth day after the strangulation. From this he concludes that there are cases in which the grave symptoms of strangulation arise at a very late date, in which even tardy operative interference may be successful. Peyat and Petet collected, according to Dr. Boeckel, forty-nine cases of laparotomy similar to those just referred to, in which only seven escaped death. This alarming mortality he ascribes to unjustiable delay on the part of the various operating physicians.—*Chicago Med. Journal.*

TREATMENT OF BULLET-WOUNDS.—In a report made to the Societe de Chirurgie relative to fractures by pistol balls, M. Verneuil declares that for ten years he has always abstained from intervention in wounds and fractures produced by firearms. and he has always been fortunate in this abstension. He is is altogether of the opinion of those who think that the part in which the wound or fracture is situated should be immobilized as far as possible, and no attempt made to find the missile. In regions where this immobilization can not be effected in a perfect manner, as in the chest or abdomen he applies upon the wound a bit of collodionised gause, and surrounds the region with a bandage agreeably tightened. MM. LeDentu, Nicaise, Despres, Anger, Terrier, and Chauvel, expressed similar views.—*L' Union Méd.*

FUNCTIONAL TORTCOLLIS CURED BY SECTION OF THE SPINAL ACCESSORY.—M. Tillaux read a paper with this title before the Académie de Médecine. The patient was a women aged 32 years, who had been under the care of M. Desnos, and who had diagnosticated a functional spasm of the sterno-cleido mastoid muscle. As soon as the head of the patient was not held, it was turned toward the right shoulder with the chin toward the left. The patient could easily replace the head in the normal position and hold it there with her hands, at the same time the pain with which the turning of the head was accompanied, disappeared.

The head was, however, again turned to one side when the hands were removed. It was difficult to make a diagnosis, for there was no contracture of the muscles, but only from time to time a painful turning of the head. Different means were employed to remedy the evil, such as bromide and iodide of potassium, electricity, various apparatuses etc., but all in vain. Thinking that the sternal part of the sterno-cleido mastoid was contracted, M. Tillaux divided it, but eighteen months later, the patient was in a worse condition than before, in constant pain, unable to do any work, and willing to submit to anything which offered any hope of relief. M. Tillaux finally resolved to divide the spinal accessory nerve. Immediately after the operation the patient's condition was improved.

It was interesting to note that there were not observed any symptoms on the side of the voice as might be expected when we consider the influence the spinal accessory is supposed to have on phonation and respiration.

INJURIES TO ARTERIES.—Dr. Satterthwaite (*Medical Record*) calls attention to the following facts in connection with wounds of arteries: First: That the carbolized gut is not always absorbed, and, indeed, may actually retard the union of a wound. Second: That it is not always easy, even under exceptionally favorable circumstances, to find the site of injury in a vessel that has been opened into. In one particular instance, when the locality of the injury was definitely known within a tolerably limited area, full an hour was consumed before the wound could be found, and then attention was only drawn to it by holding in view the consideration already alluded to. Obviously then, in penetrating gunshot wounds of large calibre, where hæmorrhage has occurred, the difficulty of finding the precise site of injury to a vessel would be still greater.—*Gaillard's Journal.*

TROPHIC NERVES AND NERVE CENTRES.—*Brain* says Jarisch, of Vienna, has made the interesting observation that the anterior cornua of the cord were variously diseased in several cases of skin disease, viz.: Herpes iris, long standing psoriasis, and acute lupus erythematosus.—*Cent. f. d. Med. Wissenschaften.*

OPHTHALMOLOGY—OTOLOGY.

REFLECTION UPON NERVOUS PHENOMENA, SUCH AS VERTIGO, TIBULATIONS, LOSS OF EQUILIBRIUM, ETC., USUALLY ATTRIBUTED TO THE SEMI-CIRCULAR CANALS, CAPABLE LIKEWISE OF BEING PRODUCED OR PROVOKED BY SIMPLE PRESSURE ON THE MEMBRANA TYMPANI, OR THAT OF THE FENESTRA OVALIS.—The author adds new confirmatory facts to those he presented to the Academy of Medicine in 1869.

He says: When one experiences tinnitus, vertigo, and especially tibubation, the inference is he is attacked, or at least threatened, with an encephalic affection. Fortunately this is not always the case, for these phenomena can be excited by another cause of a less serious character, more reassuring. I desire to speak of the *role* played by the little apparatus of the middle ear, especially the membrana tympani in the production of this series of symptoms, generally attributed to an alteration in the semi-circular canals.

The membrana tympani may be driven from without inwards by cerumen, a foreign body, a polyp, etc., and from within outwards, by secretions of mucus, or pus in the cavity of the middle ear, that not being able to escape through the eustachian tube, press upon the membrana tympani.

See what the result is: the pressure from without inwards is communicated by the membrane through the chain of little bones to the stirrup; thus pressed upon the stirrup compresses the liquid in the vestibule, which in its turn transmits the pressure to the peri-lymph in the semi-circular canals, from which it reaches the labyrithine part, and finally the encephalon where the sensation is produced.

If, on the contrary, the pressure is made from within outwards by secretions of mucus or pus in the cavity of the middle ear, the contrary effect occurs; that is to say, instead of a pressure, the membrana tympani exercises traction upon the chain of little bones. The peri-lymph, instead of being compressed, and, in its turn, compressing the organs with which they are in contact, it creates a sort of vacuum.

The resulting phenomena, however, will be about the same.

I could cite a number of facts in support of this view, the majority of which were furnished by my confreres, thinking they were attacked or threatened with a meningitis, yet who were completely cured by removing the cause of the tympanic pressure.

One could from this no longer doubt the part taken by the apparatus of the middle ear, especially the membrana tympani and the stirrup on the manifestation of these phenomena for transmitting them to the internal ear and from there to the encephalon. When this apparatus, except the stirrup, is destroyed, as the result of otorrhea, no matter how much pus there may be, vertigo is never observed, because this purulent liquid or blood, readily escaping through the perforation in the membrana tympani, does not produce any, or at least not sufficient pressure upon the stirrup, and the cotunian fluid to give rise to the phenomenon.

But, if after cleansing the drum cavity, the stirrup is pressed with the blunt point of a probe, a vertigo is immediately produced of an intensity equal to the pressure exercised upon this bone.

The instrument here takes the place of the organs of the middle ear that have pressed upon this little bone, and consequently upon the other elements constituting the appartus of the middle ear.

I have also observed that when there is a paralysis of the auditory nerves, the phenomena are not produced, or but feebly.

This point is deserving of study and verification.

Now a question naturally arrises from these observations and reflections.

The semi-circular canals, are they or can they be the exclusive seat of the nervous phenomena, vertigos, titubation, finally of the equilibrium. The beautiful experiments of Flourens reply in the affirmative. Goltz, attaching still greater importance to the semi-circular canals, regards them as the chief organs of the sense of the equilibrium of the head; and hence of the entire body.

We have here a delicate and very complex question, whose solution I leave to the eminent physiologists, more competent, and especially to the learned and so dextrous experimenter, M. Brown-Sequard, whose labors upon this subject are already so remarkable.

But, that of which I feel sure, is the part taken in this manifestation by the apparatus in the middle ear, sometimes by the simple morbid contraction of the small muscles that move the chain of little bones.—Bonnafont in *Annales des Maladies de l'Oreille*, etc., etc., March, 1882.

W.W.S.

THE IMPORTANCE OF AN OPHTHALMOSCOPIC EXAMINATION IN DISEASES OF THE EAR.—Attention has been called from several quarters to the relation that exists between the state of the retina and the different affections of the organ of hearing; but the author does not think the question has received the attention it merits. The following is a résumé of his results in this direction:

1. The ophthalmoscopic examination is an integral part of the clinical study of the auditory apparatus. It ought to be practiced in affections of the membrana tympani, particularly in acute and chronic suppurative otitis, in whatever phase the disease is seen, and hence even when no alarming cerebral symptoms have yet manifested themselves. Since it has been proven by experience that mucous catarrh can produce intracranial diseases, we should make an ophthalmoscopical examination in these cases.

2. In those cases where the organ presents a negative appearance, or there exists a hardness of hearing or deafness, sujective noises, vertigo, etc., the use of the ophthalmoscope may aid the diagnosis. for it enables us to recognize whether the disease is localized in the labyrinth, or in the cranial cavity, or whether it occupies both regions at the same time.

3. Ophthalmoscopic study of the state of the eye is indispensable for determining the necessity for trephining the mastoid process.

It can show us the extension of the inflammation towards the intra cranial cavity (meningitis, thrombosis of the sinuses, etc.), before any acute symptoms, subjective or other, as yet exist here. When the meningitic phenomena become aggravated, we can see that the alterations in the fundus of the eye progress in the same ratio; these alterations diminish, on the contrary, when the encephalic symptoms abate.

4. The influence of the trephining upon the functions of the brain can be appreciated above all from the modification upon the papilla and retina following this operation.

5. When the inflammation of the middle ear invades the meninges of the brain, it is most frequently the eye upon the same side that is altered first; but both eyes are often attacked at the same time, and that upon the opposite side may even present the most marke symptoms.

6. After the application of the trephine th improvement in the visual apparatus will be a first most pronounced upon the eye of the sam side (according to the observations thus far) however, an amelioration is observed in the othe eye also.

7. Thus far, at the clinic at Prague, each tim that a suppurative otitis media has been complicated with either a meningitis or a thrombosis o the sinuses, the ophthalmoscopic examinatio when made, demonstrated the existence of pronounced lesions in the ocular fundus (excavatio of the papilla with or without neuro-retinitis); so that this form of meningitis appears to differ from the others in that it almost always produces attractions in the bottom of the eye. As to the cause of this fact, the author is not able to decide. May not the richness of the temporal region in venous sinuses explain it in a certain measure? In order to form a clear insight into the value of the ophthalmoscopic examination, the author cites a case in point.—Prof. Zaufal, in *Prague Med. Wochenschrift*, *Anndles des Maladies de l'orrile*, etc., December, 1881, No. 6.

W.W.S.

DANGER IN THE SIMULTANEOUS USE OF IODIDE OF POTASSIUM AND CALOMEL IN OCULAR THERAPEUTICS.—The *Arch für Ophthalmologie* has an interesting paper of this title. It has been noticed for sometime by varions authors, that bad symptoms were sure to arise if calomel were used locally on the conjunctiva while the patient was taking iodide of potassium. In every case a violent conjunctivitis was set up, but as no one had ever made any experiments to clear up the subject, the cause of the inflammation remained unknown. Dr. Schlaefke has, however, recently made some investigations with the intention of clearing up the subject. He gave to a rabbit an amount of iodide of potassium equal to $\frac{1}{7000}$ part of their weight and he found that at the end of seven minutes he was able to detect the presence of this salt in the tears as shown by the reaction to the chloride of palladium.

In man when the iodide is used in doses of from 15 to 30 grains daily it can not be detected in the tears by the use of the salt named, but if we place a little calomel in the *Cul-de-sac* of such an individual there is provoked a violent conjunctivitis limited to the parts upon which the calomel has been placed, It is very easy to produce the same effect in rabbits to which the iodide has been given. The irritation is caused by the iodide of mercury that is there produced.

Many opinions have been advanced as to the action of calomel when dusted in the eye. Some hold that there is a chemical action, others that the effect is purely mechanical.

Clinical observation seems to uphold the first view, for inert powders do not have the same effect as calomel. Those who refuse to use calomel say a chemical change points to its insolubility, but Schaefke has shown that it is sparingly soluble in the tears, and that the proto-chloride of mercury is formed rather than the bi-chloride on account of the small quantity of chloride of sodium in the tears.

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Cincinnati, April 15th, 1882.

Miscellany.

SURGICAL INSTRUMENTS IN THE TIME OF GALEN, A. D. 259—268.—We make the following extracts from an interesting article published by Dr. Mook in *L' Union Médicale*, on a number of Surgical instruments belonging to the Third century, and found in excavations made in the Quartier St. Marcel, Paris, in October, 1880. All these articles were contained in a round bronze vessel, in which two buckles and seventy-five coins were found. The cutting instruments are represented by two double-edged knives with blades 2.5 inches long, and light hexagonal handles of same length, the whole made out of one piece. Another instrument of similar form, but with blunt edges, must have served the purpose of a spatula. Still another, may have been used as a spatula, but it differs greatly from the above; its blade is 0.04 inch wide by 2 inches long, with a thin round handle 0.04 inch thick, by 2.80 inches long, having at its end an olive-shaped ball 0.40 inch by 0.16 inch thick. The use of this is not very clear, it may have served as a probe, or even as a small cautery. Forceps are well represented. They are cut from a single piece of bronze, are beautifully finished, and have lost nothing of their elasticity. Two are pointed, and it would seem, were intended for the extraction of foreign substanecs, or fragments of bone. Two others, respectively 5.6 and 4 8 inches long, have flat jaws, curved inwardly toward each other, and 0 20 inch wide. A number of serrated forceps affect different forms. Some resemble the two preceding ones, while others have one of their jaws curved at a sharp angle from the axis of the forceps; the serrations correspond exactly, and are models of fine workmanship. An instrument having the form of a small spatula 1.20 inches wide, is adapted to a tubular handle 7.20 inches long, and was evidently used as an insufflator, for the purpose of introducing remedial agents into natural cavities.

The use and preparation of ointments must have held an important place in the medical practice of those days. Five gilt bronze tubes, each six inches long, were used for holding ointments, one still contains some, which has been preserved by the oxide of copper covering its surface.

We must mention a long-handled, half spherical capsule 1.6 inches in diameter, having a beak for pouring out liquids, and used no doubt, for warming ointments.

We must also notice an instrument so different from any now in use that it is hard to guess its purpose. It is eight inches long, formed of two branches, articulated like scissors, and ending in a curved surface forming the fourth part of the circumference of an ovoid. When closed, this forms a space of about 1.60 of an inch; the handles are ornate, and the articulation nearer to the serrated end. This instrument, when closed, can be safely introduced in cavities, and wounds, and when open, it can grasp bodies, or resect tissues as an *écraseur*, at the same time it may be used as a hæmostat, and for removing detached fragments lodged in its concave surface.

There is also a flat stone, probably used for spreading ointment, and on which to sharpen the different instruments. All these instruments are made of bronze, containing some silver, a fact which has no doubt contributed to their excellent preservation.—*Med. and Surg. Reporter*

COLLAPSE OF AN ANCIENT LANDMARK.—The beautiful old church at Hempstead, in Essex, the well known resting-place of the remains of the immortal Harvey, has suddenly crumbled into atoms and become of "the things that were and are not, save in retrospect." Dr. B. W. Richardson, writing to the *London Lancet* of the 4th ult., chronicles the event, and makes appeal to the profession "to join in subscribing to the restoration of a structure which, to every true Æsculapian, is of so much interest."—*Canadian Jour. of Med. Science.*

RIPE AND HEALTHY OLD AGE.—A. Bronson Alcott has written all his poems since his eightieth birthday. Von Ranke, now eighty-six years of age, is writting his "History of the

World." Whittier, over seventy, writes most of the morning, walks most of the afternoon, and often goes to a party in the evening. Longfellow, over seventy-five, read diligently, and collected material for future works ! ! ! Oliver Wendell Holmes, over sixty, is bright, cheery, physically active, and mentally as strong and sprightly as ever. Walt Whitman, nearly sixty-four, the carpenter, printer and poet, the author of *The leaves of Grass*, *Drum Taps*, and *The Two Rivulets*, is hard at work. Humboldt commenced the study of Hebrew at eighty. Victor Hugo, over eighty, is actively at work. Velpeau, clinician, teacher, practitioner pathologist, working ten hours daily, made the time wherein to write and publish over eighty works, and died in harness. Von Graefe, whose clinic always lasted most of the day, and his practice far into the night, recorded his work every day. Sir Sames Y. Simpson, from whose doors the carriages of the nobility were turned away frequently, after vainly waiting to bring their occupants to the Doctor's door, wrote voluminously, held a daily Hospital Clinic, and lectured for an hour, three times weekly, etc., etc., and died in the midst of such labors, and yet many physicians, but little over fifty, say that they are too old to write, and are getting too old even to read. And many young men are too busy to write ! !—*Gaillard's Jour.*

FOREIGN VIEW OF OUR MEDICAL STATUS.—The progress in art, literature and science, that has been so marked a feature in the recent history of the U. S. of A., has only been surpassed by that made in medicine. Instead of depending, as formerly, on reprints of imported books for their literature the citizens of the United States have raised a literature of their own, and their medical and other works are now taking the highest places in all European Schools. Their industry, fertility of invention, boldness of action, practicallity, and perseverance in patient scientific investigation, have enabled the medical men of America to advance our knowledge of the healing art by rapid strides. With them there has been none of the paralysis so deplored in some of the older schools as affecting all scientific pursuits, including medicine, and which has been so clearly traced to the attempt to reduce intellectual operations to the uniformity that constitutes the perfection of a military drill. Their institutions enjoy freedom of action, and they are determined to maintain it. In 1861, there were 37 medical schools or colleges in the U. S., each separate and independent of the other, and each having the power to confer medical degrees. Very possibly there may now be more, for the power to confer degrees is granted to all organized bodies seeking it. They allow the law of supply and demand to regulate the growth, and exclude all interference, governmental or other that might hinder free development and successful progress.—*G. H. Kidd, M, D., F. R. C. S. I., Dublin, in British Med. Journal.*

THE MEDICAL STUDENT'S PRIMER.—*Medical Record:* What place is this? This is the Pathological Society. How does one know it is the Pathological Society? You know it by the spec mens and smells.

What does that gentleman say? He says has made a post-mortem. All the gentleme make post-mortems. They would rather make post-mortem than go to a party.

What is that on the plate? That is a tumo It is a very large tumor. It weighs one hundre and twelve pounds. The patient weighed eig ty-eight pounds. Was the tumor removed fro the patient? No, the patient was removed fro the tumor. Did they save the patient? N but they saved the tumor.

What is this in the bottle? It is a tapewor It is three-quarters of a mile long. Is that muc for a tapeworm? It is, indeed, much for a tapeworm, but not much for the Pathological Society.

GOITRE IN ANIMALS.—The following fact given by the *Recueil de Mèdicine Vètèrinaire* show that goitre is not an affection peculiar to ma alone, as many authors suppose. M. Adam veterinary surgeon at Augsburg, has remarked tha after staying a certain length of time in that city a number of horses were attacked with goitre; there are only a certain number of stables where goitre shows itself, all situated at the East of the city. It is impossible to determine the cause of it. Goitre is not rare with the dogs of Augsburg, and is unusually frequent with the inhabitants of that city.

Up to the present time an unzootic goitre has scarcely been noticed amongst our animals, and everywhere veterinary surgeons have observed *it* almost as frequently in those countries where it does not affect man, as in those where it does. In most of the valleys of the Alps, Pyrenees, *Vosges*, etc, where it is rare to meet with a native who has not had a tendency to goitre, the animals have not had the least trace of *goitre.* Some coincident cases, however, have been noticed in Isere with cattle, in Savoy with horses and in Switzerland with dogs, also with the goats *in* the valleys of the Himalayas. These facts related by M. Adam added to these do not give us any enlightenment as to the etiology of goitre.—*From Jour. de Méd. et de Chirurgie*, Feb., 1882.

METHYTRIETHYLSTIBONIUM.—A French chemist endeavored to astonish the Société de Biologie last week by communicating to that body his discovery of a new medicinal agent which acts like curare. The reporter did not say that the meeting went into hysterics and suddenly collapsed when the name of the drug was pronounced, but it would be perfectly legitimate to infer it. M. Rabuteau christened his discovery iodide of methyltriethylstibonium. It would look beautiful on a prescription.—*Medical Press and Circular.*

ANOMALY—FOUR TESTICLES. — Dr. Cebeira presents a singular case—a soldier with venereal chancres, buboes, etc., and a scrotum having four distinct testicles—two in each sac—of different sizes. The supernumerary testicle of each side was above the other. —*Revista de Catalina.*

Original Communications.

GUNSHOT WOUND OF THE PELVIS WITH POST-MORTEM EXAMINATION.

By E. W. Walker, M.D., Cincinnati, O.

G. F., aged sixty-five, cabinet-maker, was brought into the Cincinnati Hospital suffering from a gunshot wound on the right side of the pelvis, one inch behind the anterior superior spine of the ileum and one inch below the crest. The accident was caused by the discharge of his pistol while transferring it from his coat pocket to the side pocket in his pantaloons. The pistol was 32 calibre. He stated that he thought the pistol was pointed slightly forward when discharged. His condition when brought into the house was as follows: The facial expression was anxious. He vomited several times immediately after being brought in, the vomited matter was simply the contents of the stomach, containing no blood. There was no pain at the point of entrance of the ball. There was slight tenderness over the abdomen. No tympanites was present. The respirations were thirty-two per minute. He complained of great pain in the left hypochrondriac region on deep inspiration. The respirations were shallow and jerky. The pulse was 96, strong and regular. There was some rigidity of the abdominal muscles. He had a passage from his bowels after being in the house some time, but passed no blood at any time. Warm applications and large doses of morphia were ordered.

In the afternoon of the day he was brought into the house his temperature was 101°, pulse 96, respiration 42, and the pain and tenderness over the abdomen had entirely disappeared. The rigidity of the muscles of the abdomen had almost disappeared. He declared he felt much better and clamored for food.

On the morning of the second day after being wounded the temperature was 98½°, pulse 96 and strong, respiration 30. The breathing was much more natural and the patient seemed better in every way. The abdominal tenderness had disappeared and the walls were no longer rigid. He had an operation from his bowels, containing no blood. He had perfect control over his bladder. His appetite continued good and the anxious facial expression had almost entirely disappeared. About five o'clock p.m. of the second day the patient complained suddenly of a very acute pain in the epigastric region. He became suddenly collapsed. His pulse rate was 150, respiration was 48 and exceedingly shallow. He was moaning constantly; his countenance became blanched and his expression very anxious. The collapse became more and more extreme, notwithstanding the stimulants given, and at 8:45 p.m., about twenty-four hours after the receipt of the injury, the patient died.

The post-mortem examination made twelve hours after death was as follows: The body was well nourished and post-mortem rigidity well marked. On the right side, one inch behind the anterior superior spine of the ileum and one inch below the crest, was a circular opening about one-quarter of an inch in diameter covered by recently coagulated blood. A probe passed from the external wound obliquely through the expanded wing of the ileum. There were no other external points to be noticed.

Thoracic Organs.—There was marked general emphysema of both lungs. Some few old pleuritic adhesions existed binding both lungs to the parietes of the chest. The posterior surfaces of both lungs were markedly congested. The heart showed on the outer surface of the right ventricle an old fibroid patch about the size of a silver dollar. The right ventricle was largely dilated and filled with a large red clot. The aorta, above the opening of the coronary arteries, contained numerous atheromatous patches.

Abdominal Organs.—The spleen was normal. The kidneys were markedly decreased in size. The capsule was adherent and the convex surface was very nodular. The cortical substance was decreased in thickness and of a dull red color. The substance of the kidney was much firmer than normal. The bladder contained about six ounces of urine. The prostate gland was considerably enlarged. The liver contained scattered acini that had undergone fatty change. There was some dilatation of the terminal branches of the hepatic vein.

The intestines were normal with the exception of the wound below described. On opening the abdomen a large amount of fluid blood was found in the peritoneal cavity. The inner surface of the ileum showed a small triangular piece of bone, which had been split off by the bullet in its course. About five inches from the ileo-cæcal valve was found an opening through the calibre of the gut. Both the wound of entrance and exit into the gut were plainly visible, but closed by a valve-like fold of the mucous membrane and by clotted blood. The bullet was found between the folds of the mesentery at the commencement of the jejunum. The bullet had torn a small hole in the under fold of the mesentery. There was not a particle of fecal matter found in the peritoneal cavity. There was no distension of the abdomen or of the intestines with gas. The other organs examined were normal.

This case is reported because there are several points of considerable interest connected with it. In the first place the shock of a wound of this sort is generally much more profound than it was in this case. Taking into account the age of the patient and the severity of the wound the slight shock present was remarkable.

In the second place, the patient neither vomited nor passed blood from his bowels at any time. This may be accounted for by the ball tearing through the tissues and vessels and causing the blood to coagulate on the torn edge of the vessels so as to prevent any hemorrhage. When, however, the constant peristaltic action of the intestine is taken into account it seems remarkable that the clots should not have been dislodged.

In the third place, absence of fecal matter in the peritoneal cavity with a wound of this sort was remarkable. This could be accounted for by the openings into the gut being closed, as stated above, by valve-like projections of the mucous membrane.

In the fourth place the absence of air, due probably to the same cause, was to be noticed. The cause of death in the above case was undoubtedly due to a hemorrhage from a branch of the mesenteric artery wounded by the bullet in its course.

TWO CASES OF CONGENITAL IRIDEREMIA, WITH LAMELLAR CATARACT IN ONE AND DISLOCATED CATARACTOUS LENSES IN THE OTHER.

[Read before the College of Physicians of Philadelphia, April 5, 1882.]

BY GEO. C. HARLAN, M. D.,

Surgeon to Wills Eye Hospital and the Eye and Ear Department of the Pennsylvania Hospital.

CASE I. N. J. M., aged 12, says that he knows of no defect in the eyes of any other member of his family in this or preceding generations, except that his mother is "short sighted." He is of medium size, and, except his eyes, well developed.

His vision is $\frac{8}{cc}$ and is not improved by glasses or the stenopaic hole. There is no photophobia, and he sees better in a bright light than in a subdued one. The corneæ are clear, but perhaps very slightly below the normal size, though a constant and decided nystagmus makes it impossible to measure them accurately. The eyes are free from irritation, and their tension is normal. There is not a vestige of iris in either eye. There is well-marked lamellar cataract in both eyes. In each lens there are two opaque layers with clear lens matter intervening between them, beautifully seen by oblique illumination. Only occasional and partial glimpses of the fundus can be obtained, but the choroid seems normal. There is not sufficient vision for any satisfactory test of the accommodation.

CASE II. I. B., a well-grown boy of 13 years, has rather prominent eyes, with full-sized cornea, and normal tension, but the iris is entirely absent in both. In the right eye the cornea is quite clear, and though there are floating opacities in the vitreous, the details of the fundus can be seen fairly well. The lens, which is of normal size, is opaque and white, and is dislocated upwards, so that only about its lower half is seen beneath the corneo-sclerotic junction. The ophthalmoscope shows a hypermetropia of $\frac{1}{6}$, which, assuming $+\frac{1}{4}$ to represent the loss of rerefractory power induced by aphakia in the emmetropic eye, indicates a structure of the ball corresponding to a myopia of $\frac{1}{12}$. The choroid and retina appear normal in structure, but the optic disk is atrophied and greatly distorted, the vertical diameter being twice that of the horizontal, and the retinal vessels crowded to its inner edge; vision is only quantitative. There is no nystagmus.

In the left eye there is a diffused haziness of the cornea, which, together with a greater opacity of the vitreous than in the other eye, makes the details of the fundus invisible. The lens, which presents the same form of cataract as that in the right eye, is still further out of position, and only a narrow edge of its periphery extends below the margin of the sclerotic. The lenses seem to be held in their unnatural position by some attachment of their upper margins, while the lower are free, and they swing backward and forward, as if on hinges, with the movements of the balls. In the left eye the lens has caused an absorption of the tissues, against which it rests until the choroid has disappeared from above it and the sclerotic is very much thinned and slightly staphylomatous. When the cone of light concentrated by a convex glass is thrown upon it from below, the outlines of the lens become distinctly visible through the sclerotic.

Though irideremia (iris, and eremia, absence), or aniridia, is an extremely interesting anatomical curiosity, it can scarcely be said, in the present state of our knowledge, to teach any useful lesson in embryology or pathology. Numerous hypotheses have been suggested to account for its occurrence, but most of them are more fanciful than philosophical, and perhaps none of them more rational than that maintained long ago by Von Ammon, who, in view of the late appearance of the iris, after the choroid is fully formed, considered its absence as simply the result of an arrest of development of the uveal tract. It is a curious fact that this anomaly is almost invariably symmetrical. According to Manz (Handbuch, Augenheilkunde II. p. 90), but one case has been reported in which it occurred in one eye only. Another point of interest in the history of this defect is its decided tendency to hereditary transmission. A number of cases of inheritance have been reported; one (quoted from Von Ammon by Lawrence) in which one member of the first generation was affected, three of the second, and five of the third.

The fact that cataract is very generally associated with irrideremia, has given some report to the suggestion that the iris is concerned in the nourishment of the lens: and to an ingenious theory of the causation of irideremia which supposes that the iris has been crowded out, as it were, by the lens remaining too long and too closely in contact with the cornea during embryonic life. This coincidence of cataract with irideremia is, however, not constant, as cases are recorded in which the lens was transparent. One is reported by Dr. Reuling (*Am. Jour. Med. Sci.*, Jan., 1875), in which vision was sufficiently acute to enable the observer to determine that the power of accommodation was unimpaired.

The normal intraocular tension found in cases of irideremia has been adduced to prove that the aqueous humor is not secreted by the iris, but chiefly, if not entirely, by the ciliary processes. In the rabbit the ciliary processes are connected with the iris, and when both are removed, the aqueous humor is never regenerated (Deutschman, *Grafe Arch.*, v. 26, No. 3.) This, so far as it goes, gives support to the advocates of sclerotomy, instead of iridectomy, in glaucoma.

Partial congenital luxations of the lens are usually upwards, as in Case II., and frequently occur without defect of the iris. In the left eye of this patient, the lens is so far out of place that it would be entirely concealed if the iris were present, and this case might then be readily mistaken for one of the very rare anomalies of congenital aphakia.

After reading the preceding paper, Dr. W. F. Norris said:

"Through the kindness of Dr. Harlan, I have had an opportunity of making an examination of the patients whose cases have been described. On first inspection of one of the cases, I thought I could detect a slight peripheral remnant of the iris, but more careful examination, aided by the ophthalmoscope (oblique light), showed that every vestige of iris was wanting, that this appearance was due to the shadow cast by the limbus conjunctivæ corneæ on the periphery of the anterior chamber.

It has occurred to me that at least some of the cases which have been reported in the older books as partial irideremia, might possibly be due to this similar appearance in the days when the above-mentioned methods of examination were unknown.

REPORT OF A CASE OF MALARIA, IN A CHILD AGED 20 MONTHS, IN WHICH MORBID ENLARGEMENT OF LIVER AND SPLEEN OCCURRED, AND ALSO OF A CASE OF AORTIC STENOSIS AND REGURGITATION WITH ATHEROMATOUS AORTA IN A WOMAN AGED 103.

WITH EXHIBITION OF THE SPECIMENS.

[Read before the College of physicians of Phila., April, 5th, 1882.]

By John M. Keating, M. D.,
Lecturer on Diseases of Children in the University of Pennsylvania.

The following notes were taken for me by Dr. Charles E. Bricker, Resident Physician at the Philadelphia Hospital. I give the statement of the mother, as throwing some light on the antecedent history of the child, from whom the interesting pathological specimens were taken which I have the honor of bringing before the College to-night:—

Case I. M. N., aged 26, married, entered the obstetrical wards of the almshouse two years ago, shortly after her arrival from Ireland. Little more than a month after, July 24, the child was born. She remained in the house one year, and went to Willmington, Del., to live. Shortly after her arrival there, in July of last year, she was seized with chills; she states that she lived in a swampy locality, and that every body living in the neighborhood suffered severely from intermittent fever. She states that the malarial paroxysms were not of the usual type, the disease being often of a cerebral form, accompanied by violent headaches, which compelled her to place ice to the head, and that she was at times delirious. The attack came on daily for several days at a time, commencing at four o'clock in the afternoon. She nursed the child until its death. About two weeks after the mother was first affected the child began to fail—it exhibited the same symptoms as the mother. Its attacks would come on about four in the afternoon. The ears became cold, finger-nails blue, there would be vomiting, followed frequently by loose stools of a green color, and containing a great deal of mucus; at times constipation would exist for days, to be followed by stools of a chalky color. There were no convulsions; no strabismus. Child always nursed well, and the mother always had plenty of milk. On the 5th of October following, the child being fifteen months old, she again sought admission to the hospital. Upon admission the mother showed marked malarial cachexia, which was also equally noticable in her infant. The mother was placed upon iron and quinia in large doses, followed by cod-liver oil, upon which she rapidly improved. Her milk was examined microscopically, and found to be normal. On examination of the child, attention was immediately attracted to the abdomen, which seemed to be unusually enlarged, especially upon the left side; this was found to be due to an enlarged spleen, which extended from the normal area of splenic dulness down to the crest of the ilium, its anterior edge terminating in a ridge, about an inch to the left of the umbilicus. The mother had not noticed this ridge until after her admittance to the house. The liver was also found to be enlarged, and the intestines were unduly distended with gas. Every effort was made by treatment, both constitutional and local, to reduce the liver and spleen to their normal size, and for a time we thought our efforts would be successful, as the lower border of the spleen became separated from the ilium by a line of tympanitic resonance. The malarial attacks were checked by suppositories of quinia, but the use of tonics and judicious diet had little effect upon its nutrition. The child died March 5th, 1882, aged twenty months. Post-mortem examination gave us specimens, which I bring before you—liver weighed 19 ozs., and the spleen 14 ozs.

There was no history of syphilis in this case. Dr. Formad expressed the opinion that the enlargement of the spleen was that of simple hypertrophy of the congested organ, due to malaria; the enlargement of the liver being due to fatty change; the specimens, on this account are of great interest.

The following notes were given me by Dr. W. A. Edwards, Resident Physician of the Philadelphia Hospital:—

Case II. Mary Anderson, aged 103, was admitted to the old colored woman's ward January, 1882. About three weeks after admission she suffered from an attack of bronchitis, which persisted more or less until her death; while treating her for this affection, attention was called to her heart, which was found to present a well-marked, double aortic murmur, *i. e.*, regurgitant and obstructive, also a slight mitral whiff, probably regurgitant. She presented no lesion of any other organ, complaining only of slight rheumatic muscular pains. The patient was well nourished, appetite good, cerebral condition fair. She continued in the above condition, gradually failing, until death, which occurred March 22d, 1882.

Post Mortem.—Lungs: Bronchitis well marked over both lungs; the bronchical tubes, and bronchioles, exuding pus, upon pressure, in noticeable amount. At the right apex were a few masses, which had undergone calcareous degeneration, cicatrization, and puckering. The point at which they were deposited was drawn into a stellate mass attached to the pleura. *Heart* and *Aorta:* Upon removing these organs they were found to present a very interesting condition of atheroma, due to the age of the patient, and the unusual duration of the disease, which enables us to study it in what may be termed its last stages. The aoratic valves show atheromatous changes, the middle leaflet being almost at its base; the arota is dilated, and thickened with atheromatous deposit almost concentrically surrounding the vessel; portions of this, when detached, are like thin sections of solid slate. Along its course, six inches from the aortic valve, is a large patch of ulceration, on which blood had collected into a firm organized clot, thus preventing rupture. The coronary arteries may be felt like twigs of wood in the heart muscle.

The interest of this case lies in the fact that the supposed great age of this patient was arrived at, by the absence of laborious occupation—and the fact that with the nature of her heart lesion, sufficient compensation had been established to carry on life, no extra strain having been placed upon the heart's power. This case is an interesting study in prognosis.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of April 3d, 1882.

J. L. CLEVELAND, M.D., *Pres't in Chair.*
W. H. WENNING, M.D., *Secretary.*

The Hypodermic Injection of Mercury in Syphilis.

Dr. Ravogli made the following remarks on this subject:

The subject to which I call your attention this evening is not at all new; they are neither new researches nor new theories which I wish to present to you; notwithstanding I think it is a subject capable of exciting great interest and of considerable practical value.

Alexander Wood, in 1855, gave to therapy the new method of introducing remedies into the body through the subcutaneous tissue. The Pravaz syringe made the performance of this operation very easy and numerous authors have demonstrated through their researches and experiments the great utility of this method. It was applied in every disease and all medicinal substances were employed.

Syphilis, while sometimes obstinate and rebellious to every method of treatment, was subjected to the remedies through this new application. You know that Christ. Hunter was the first who introduced corrosive sublimate in the subcutaneous tissue in treating syphilis. Hebra followed in the path of Hunter in 1860; in a young girl twenty-one years of age, he injected twenty grains of corrosive sublimate in twenty-five weeks of treatment without causing salivation. F. Hebra injected a solution of one grain of sublimate in half an ounce of water, using from seven to ten drops for every injection, and observed that the syphilitic eruption began to disappear at first from the place where the injections were applied. Berkley Hill and Lewin, in a great number of cases of syphilis, applied injections of sublimate and in some cases iodide of mercury with good results.

Scarenzio and Ricordi, in Italy, injected calomel, claiming great benefit. But it was soon noticed that every injection of calomel produced an abscess, which sometimes assumed severe proportions. Manassei, in Rome, in order to avoid this inconvenience, injected in many cases small doses of corrosive sublimate, which not so often produced abscesses.

But it is well known that when Berkley Hill began to inject the sublimate he used no more than one milligramme, in order to prevent the pain arising from the local action of the mercurial preparation, and Lewis dissolved some morphia with a solution of five milligrammes to alleviate the pain. Zeissl, in his handbook of syphilis, reports cases of syphilis treated in this way, but complains of the great pain and the large abscesses following the injection. It would require volumes to discuss all that has been written for or against this method, some authors even doubting the absorption of the mercury when introduced hypodermically. The pamphlet of Scarenzio and Ricordi removed every doubt, when stating that the absorption is much more rapid and sure by this than by any other method. Indeed in twenty-four hours after injecting four grains of calomel they could find traces of that metal in the saliva taken directly from the duct of steno.

Every author, in speaking of the manner of performing the injections, says to choose the external portion of the arm, or, as Prof. Sigmund wrote, to select the lateral regions of the breast, on which the patient does not lie. But all agree as to the pain excited by injection and admit the danger of abscesses.

With such ideas I was amazed to see Prof. Auspitz, in the Policlinic of Vienna, treating all his patients with hypodermic injections of corrosive sublimate without causing either pain or abscesses. Auspitz introduces the needle of the syringe deeply, its whole length, in the region of the glutei muscles. I remained in the clinic of

Auspitz about one year, and was thus able to attend the treatment of all his patients; in a very considerable number of cases thus treated I never saw an abscess, the patient being always able to return to his business without complaining of any pain.

When I returned to Rome I applied this method in the clinic of the University of Rome. In one year forty-six cases of syphilis were treated only by means of subcutaneous injections of the sublimate; of these twenty-nine were males and seventeen females. All recovered and not one presented a relapse during the time I remained.

The injections were made with a solution of one gramme of corrosive sublimate to one hundred grammes of distilled water, keeping account of the doses of the salt introduced into the body, which is easily done, as the Pravaz syringe holds exactly one gram of fluid; thus every one knows that after twenty injections twenty centigrammes of the sublimate have been introduced into the system. The injections were given every two days, alternating the place, one day injecting on the right side, the other on the left side of the gluteal portion. Dr. Rasori, the second assistant in the same clinic, gave a report of the cases treated in such a way, recording many interesting observations; but in his pamphlet never spoke of the place, nor of the method of applying the hypodermic injections, and never said from whom he learned this method of treatment.

Since I have chosen Cincinnati as my home I have treated many cases of syphilis by means of deep hypodermic injections of the sublimate with very satisfactory results. I will report to you only three cases, which I had the opportunity of observing a long time and can certify as to the result of the treatment.

Case 1. A young man of very respectable family of this city, one of my first patients, came to me with syphilis of four months' standing. He presented secondary ulceration on the place of the initial chancre, the cervical and inguinal glands highly developed, slight roseola since of one month's standing, involving the skin of the trunk and very slightly the superior portion the limbs; slight erythema syph. in the throat and beginning alopecia. I began the subcutaneous injections; every two days I applied one injection of one grm. of the above mentioned fluid in the gluteal region.

After the injection a numb pain followed, which the patients compared with the sensation of contusion, never sufficient, however, to cause an interruption to their business. In that way we reached the number of thirty injections. Salivation did not appear, nor any disturbance from the hydrargyrosis obliging the suspension of treatment. I would here notice that I recommend the patients to keep their teeth as clean as posible, washing them twice a day.

After ten injections the roseola spots were scarcely perceived, only by a very slight pigmentation, which after a few days completely disappeared. The sore throat recovered thoroughly, the ganglia scarcely percepible. When I ceased the injections the ganglia were perhaps in their normal state, the health of the patient very good, normal in all its functions. After such a treatment the patient took three steam-baths at an interval of five days from each other. It is now over one year and the patient has never had any other manifestations of the disease.

Case 2. A man, thirty-five years old, strongly built, who had received a hard chancre two years ago, had many syphilitic manifestations, was treated internally with various mercurial preparations, but with unsatisfactory results. Shortly after my arrival here, he showed a large eruption of mucous plaques on the scrotum, on the penis, and around the anus, psoriasis palmaris and mucous plaques in his throat.

In the month of February of last year I began treatment with him. Thirty injections, one every other day, were given without any annoyance.

After the first twelve injections the mucous plaques had disappeared and only a remaining redness showed their pre-existence. After thirty injections no sign at all remained of the disease. Five steam baths finished the treatment, and up to this time the gentleman is in good health and nobody would be able to find any suspicion of the obstinate disease.

The last case was a gentleman, twenty-seven years of age, of good constitution, who had two years and a half previous got a chancre which brought on syphilis with all its consequences. He had been subjected to many mercurial preparations internally without any improvement. His stomach was very much deranged. He presented syphilitic papules on the forehead, syphilitic pustules on the superior limbs, on the fingers, and the scalp. Mucous plaques around the anus and the perineal region. Alopecia diradans and swelling of the glands completes the description of his present condition. I ordered the cessation of all internal medication, and began the treatment with subcutaneous injections of corrosive sublimate. The general treatment was conjoined with the local application of empl. hydrarg. during the night. After ten injections the papules had nearly disappeared and a remaining pigmentation only showed the previous site of the papules. Some irritation remaining from the irritative action of the mercurial salve disappeared by the use of diachylon, the skin becoming quite normal. Twenty-five injections were enough to complete the cure. No salivation, no trouble at all; the condition of the stomach improved and the general health was fully restored.

I do not intend here to compare the different methods of treating syphilis, but it is certain that the hypodermic method has many points to commend it. It is very prompt in its effect, so that after a few injections the result is highly perceptible; it is very speedy in its application, for in half a minute the injection is done and the patient can return to his occupation. Applying the injection deeply in the muscular mass of the glutei, the pain is scarcely appreciable and not sufficient to distract the patients from their occupation. It is very secret, requiring nothing on the part of the patient to avoid suspicion. Homostitis rarely occurs and salivation less frequently than with the other methods. The stomach is perfectly free and the patient can eat with a good appetite and improve his nutrition, which is very important in the treatment of this disease. With this method you can keep account of the doses of mercury introduced into the body, which is very difficult by the other methods where the introduction depends on the patient.

Now, what is the best mercurial preparation to inject? I very often injected calomel, ten centigrammes at a time, suspended in water and glycerine. The action of these injections is astonishly rapid. I had a case of syphilis papulosa, covering the whole body with secondary iritis, menacing the function of the eye. It was necessary to use a strong preparation in order to save the function of the eyes. After two injections with calomel the papules lost their deep color and began to disappear and the iritis improved rapidly. According to my experience I cannot counsel the use of calomel as a regular treatment of syphilis; only exceptionally, in very severe cases, where a vital organ is menaced and no time can be lost, have I found the use of calomel of great benefit. I never dared to inject calomel as deeply into the muscular masses as the sublimate. I always injected calomel into the subcutaneous tissue of the arms, having in consequence constantly abscesses. Therefore, although I am not afraid of an abscess, I do not think it possible to inject thirty times and produce twenty or thirty abscesses, which no patient would endure. Injecting calomel in doses of ten centigrammes for every injection we have a prompt saturation of the organism, salivation setting in soon after, it is not enough to obtain a permanent result.

With the sublimate on the contrary, as above mentioned, we can introduce large doses of the metal so slowly, that the organism very easily tolerates it till the treatment is completed.

In the hospital at Milan and in the dispensary, the attending physicians have for two years used injections with corrosive sublimate according to the method of Auspitz, and they have never observed an abscess and claim the same result that I have obtained. We can therfore conclude that:

1). The subcutaneous method is the most easy treatment for syphilis.

2). That the best solution is 1 gram of sublimate in 100 grams of water, one injection of 1 gram of the solution every two days.

3). That the proper place for injection is the region of the glutei muscles not very far from their insertion in the iliac bones.

4). It is necessary to insert the needle horizontally in the muscular mass in its whole length.

5). No abscess or any other resulting irritations have been observed.

6). 20 to 30 injections are necessary in a common case to complete the cure.

DISCUSSION.

Dr. W. Judkins remarked that he had a patient at the present time, whom he put under this form of treatment. He at first began the injection of calomel sub-cutaneously, but soon abandomed it for the reason mentioned by the essayist, namely, the formation of a severe abscess. He is now using the corosive sublimate, injecting it three times a week into the posterior portion of the neck with good effect.

Dr. Hottendorf said he had no experience with this method of administering mercury but would try it at the first opportunity. He would, however, relate the following, to him, singular fact: A lady who was syphilitic was treated with corosive sublimate internally for the course of four or five weeks until completely salivated. Notwithstanding this syphilitic iritis set in two weeks later. She was then placed under large doses of calomel (two grains every two or three hours with opium and jalap) until again salivated, and the local application of atropine to the eye. The iritis rapidly subsided and the patient made a speedy recovery.

Dr. Whittaker remarked that he visited Lewin's Clinic in Berlin about twelve years ago where this treatment came in vogue. In fact Lewin, the speaker believed, and not Auspitz, as the essayist remarked, was the originator of this method. Although the hypodermic injection of mercury was then made indiscriminately to age and sex, it has since fallen somewhat in disuse. It has few advantages over the external methods and some disadvantages. It is certainly often preferable to the internal administration of mercury which is liable at times to set up digestive disorders, but it can not replace inunction. The most serious objection to hypodermic injection is the pain caused by puncturing the skin. Some persons are too sensitive for frequent punctures. It is true the mercury may act more swiftly in this way (according to Vajdu and Paschkis excretion occurs after two centigrammes of sublimate hypodermically, and only after six grammes of blue ointment by inunction), but the pain which is given counterbalances that, at least in adults. Infants are not so sensitive in this particular, and in them the hypodermic method possesses the advantage of not salivating an innocent party, the mother or nurse, as may happen by inunction. The speaker thus treated an infant subject to syphilis by hypodermic injections (corosive sublimate $\frac{1}{32}$ of a grain every other day) four or five years ago. But generally the inunction method meets with most favor and will not, as a rule, fail in action if done under proper directions. The mercury must be divided over different parts of the body; it need not be applied to the same parts more than twice. It is not necessary to make as many as twenty inunctions to secure the desired result, as the most obstinate case will yield in two weeks—granting three week for syphilitic psoriasis of the palms of the hands or soles of the feet, in which form of syphilis the speaker never uses mercury in any other way. Inunction has one disadvantage and that is the filthiness of the practice. Neither method prevents recurrence of symptoms.

The essayist's method of deep injections into the substance of the muscles is an improvement. The speaker always inserts the needle deeply no matter what the substance used, as it causes less pain than the more superficial introduction. However, deep injections of corosive sublimate will cause more pain than morphia. Calomel may be left out of the question as no one uses it now in this way. The bichloride is by far the best preparation to use, most rare.

ly of all others causing abscesses, and least painful of all others except the cyanides to which applies the grave and insurmountable objection that they are liable to produce prussic acid poisoning.

Dr. Thornton said that fumigation with mercury had not been mentioned; it is a method highly recommended by some where other practices failed. He himself had no experience in the hypodermic method but could readily account for abscesses following calomel, on account of its great insolubility, whereas corosive sublimate is soluble. He differed with the previous speaker as regards the greater adpatability of this method in children, than adults. Grown persons must indeed be extremely sensitive to object to injections, but children will certainly set up a great squall if the needle be plunged into their skin. He also questioned the propriety of injecting into the muscle. First, unless the needle be very long it will not penetrate the glutei muscles, especially if unrelaxed, as the skin is very thick in this region. Secondly, he regarded the absorbent power of the muscles less than that of the areolar tissue. He would admit, however, that these objections were purely theoretical. He considered the hydrarg c. creta a good preparation in children and even in adults as it will not interfere with digestion, or cause salivation.

Dr. Wilfert said that he had seen this method used by Auspitz in Vienna last year. The mercury is now combined with peptone—forming a peptonate of mercury—which prevents salivation. A centigram of this substance is injected from twenty to twenty-five times, with no preference for any special locality except when the eruption seems to be most marked. Prof. Bamberger injects this modification of mercury every other day.

Dr. Thrasher thought the hypodermic method had great advantages over others, as inunctions or baths. Inunction is objected to by some on account of the filthiness, the necessity required for separate apartments, and the length of time taken from occupations; baths require special apparatus not in the hands of every physician. The hypodermic method also enables us to regulate the amount of mercury more readily. The objections urged against deep injections are not tenable because they are not so liable to cause pain as more superficial insertions, as is known from the deep injections in neuralgia. It is not more difficult to penetrate the muscle than the integument. The hypodermic method may be used to special advantage in children, though a person may guard himself against self-inunction by proper precautions.

Dr. Ravogli said it was not his intention to compare the different methods but simply to mention the hypodermic injection as a means especially adapted for business people who have no time for other treatment. The inunction method has its advantages, but not every body can spend half an hour a day for inunction. Another great advantage of hypodermic medication is its secrecy. With children this is no object and they may therefore be treated with mercurial baths (one grain of corosive sublimate in a bath) in which they may be placed for twenty or thirty minutes. The albuminate of mercury is useful but did not prove satisfactory in Hebra's Clinic. The syphilitic manifestations disappeared easily but were not so lasting as with corosive sublimate. He recommended twenty to thirty injections not because he thought that so many were necessary for the disappearance of the symptoms but to insure against a relapse which may occur at any time as long as the glands are infiltrated. If after a while syphilitic symptoms again arise the treatment must once more be resorted to. For he was also of the opinion that syphilis is never entirely cured but is simply kept dormant in the system for an unlimited time.

Selections.

MEDICINE.

Lectures on Inflammation.—Delivered before the Royal College of Physicians, by J. Burdon Sanderson, M. D., LL. D., F. R. S., Professor of Physiology in University College, London.

Injury and Damage.—I feel that I need some apology for coming before the college with a subject which has been frequently discussed already, and about which it may be presumed, that I have nothing new to say. I cannot promise that it will not be so; for I have no new doctrine of inflammation to advance, no great discovery to relate.

In what I shall have to say to-day of the nature of the process of inflammation, it will be my purpose to strengthen the position I have taken with reference to the subject on former occasions, and particularly in my essay on inflammation, published in 1870, and in the lectures I gave in the theater of the University of London seven years ago.[1] In my second lecture. I intend to enter on a question which, though not new, has attained of late years a significance which it did not before possess—that of the ætiology of inflammation—that is, the discussion of the various agencies which, either as principal or accessory causes, may be concerned in its origin. And, lastly, I desire, in my third lecture, to bring our modern knowledge in comparison and harmony with the teaching of those who have thought and observed best on the subject, from Hunter to our own times.

1. *Inflammation is the Physiological Effect of the Damages done to a Tissue when it is injured.*—The

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[1] The definition which I gave in 1870, in my essay on the Progress of Inflammation, published in the *System of Surgery*, was as follows. "1, Inflammation is the succession of changes which occurs in a living tissue when it is injured, provided that the injury is not of such degree as at once to destroy its structure vitality."—*System of Surgery*, 1870, page 729. The definition accepts the characteristics of the inflammatory state as they were stated by Celsus, and connects them with each other by their common relation to the cause which produces them—*injury*. The lectures referred to were not reported or published.

definition which in our epoch has carried more weight and has had more influence than any other, is that given in nearly the same terms, first by Mr. Goodsir (*Anatomical and Pathological Observations*, page 43, Edinburgh, 1845), and subsequently by Mr. Bowman, who, in his well known lectures (*Lectures on the Parts concerned in Operations on the Eye*, London, 1849, page 29), described the effect of an injury of the cornea as "a change wrought in the natural acts of nutrition then existing in the wounded part." The same conception originated in the minds of these two observers independently, from the study, which the introduction of the microscope and their own anatomical discoveries had rendered for the first time possible, of the textural changes which inflammation leaves behind it. This conception, so thoroughly British in its origin, was soon transplanted into Germany. It was adopted by Virchow with little modification, and became part of that more general doctrine of "cellular pathology" which at one time ruled pathological opinion, and has not even yet lost its influence. The work that Mr. Bowman did about inflammation was, like all the other work he did in those early and fruitful years, complete. The appearance which he described in the cornea as evidence that the "natural action of its nutrition" had undergone a change, are as full of interest to us at the present time as they were to him; and, if we were now to repeat his experiments, we should find the results to be exactly as he said they were. Why, then, should we not content ourselves with the same explanation? Why should we not say with him and with Goodsir, "Inflammation may be described as a modification of existing normal processes?" The answer is that during the last ten or fifteen years, another step forward has taken place—a step in the same direction as the former one, and, as it was, dependent on the acquirement of new methods of observation. These methods may be described as physiological, just as those which led to the brilliant discoveries of the preceding epoch were anatomical. We are now striving to become eyewitnesses of the actual processes of disease at the same time that we continue with unabated curiosity and vastly improved means, to scrutinize its results. We have thereby learnt that many pathological processes, and particularly the fundamental one which now occupies us, are not quite what, from their anatomical results, they seemed to be. We find, when we actually watch the effects of injury on a living part, that the old order changes, but does not give place to new—that we have before us, not disorder of function, but arrest; not the diversion of the resources of nutrition into new channels of activity, but merely the accumulation of such resources where they are useless, if not destructive, and consequently, that the restoration of part to the natural state must be as simple as its departure from it—that the resolution of an inflammation means either that the temporarily arrested processes of normal life simply go on again, or, if the process have proceeded to its ultimate issue—death of the affected—that what has been destroyed has to be repaired, not (as we used to think) by a continuation of the morbid processes, but simply by the restitution of the normal condition. The principle is the same (if I may be permitted to use a homely an illustration) whether the inflammator process invade our houses or our bodies. Obviously, no one would think of regarding the destruction of a house by fire as a modification of any normal process, nor would it occur to any one that the damage done would be best repaired by extension of that process, perhaps in a milder form.

I am well aware that this illustration is open to the objection that an inflammation has only the most remote resemblance to a fire, but I use it merely for the purpose of enforcing what I want to say—namely, that, if we confine the word inflammation within the limits of the original definition, and accept as its phenomena those which have been assigned to it by the authority of tradition (which is the only authority that has any claim to be heard in such a question), its essential nature is fully expressed in the word *damage*, and that it has no further relation to the process of repair than that which arises from the universal operation of the physiological law that, whenever part of an organ is destroyed, new growth proceeds from the old, to supply the defect.

2. *Mode of Origin of Inflammation in a Non-Vascular Tissue. Keratitis cannot now be Understood as "perversion of the natural acts of nutrition of the part."*—Keratitis, as I have already hinted, and will endeavor to show more completely in my third lecture, was the point of departure of the cellular pathology. It is, therefore, with the cornea that we must begin, if we desire to re-examine the grounds of that doctrine by bringing to bear upon it the direct teaching of the experiment.

Although in the cornea we have to do with a structure which is devoid of vessels—and therefore, in the sense of the classical definition, incapable of inflammation by itself—yet, inasmuch as, in every keratitis, the adjoining vascular stuctures sympathize—*i. e.*, are also affected by the injury, it is allowable to include what happens in the vascular border as forming part of the process.

When an incised or punctured wound is made in the cornea of the rabbit, of sufficient depth to penetrate below the superficial epithelium and expose the proper corneal tissue, the reaction is exceedingly slight. All that can be seen by the naked eye is, that the wound is surrounded by a haze of opacity, which rapidly disappears; but there is no congestion of the limbus. As an exciting cause of inflammation, therefore, such a wound is inadequate, for none of the objective signs of inflammation are present. To induce them with as limited an injury as possible, the best way is to insert a silk thread as a seton at the center of the cornea, withdrawing it as soon as it has accomplished its purpose. After several hours, during which no visible effect follows the injury, the cornea is seen to be surrounded by a red border, which consists of the wreath of dilated capilliary loops of the episcleral vessels, from it, for the most part, derives its nutrition. It often happens that the inflammation which has thus begun proceeds further; that the marginal congestion extends and increases until the cornea is surrounded by a ring of tumid and highly vascular mucus membrane; that the surface of the conjunctiva is bathed with pus; that the cornea becomes more and more opaque; and that eventually pus collects in the anterior chamber.

This effect exceeds what is wanted, as much as the others fall short of it. The excess of reaction may be avoided by withdrawing the ligature as soon as the conjunctivitis has begun; in which case it may fortunately happen that the zone of redness is limited to one border only, opposite to which a radial tract of opacity extends towards the middle of the cornea, and becomes continuous with the zone of opacity which surrounds the path of the seton. To understand what this means, it is scarcely necessary to appeal to the microscope. It is plain enough that the central area of opacity is of the same kind as the little cloud which, when the cornea was injured by merely breaking up its surface with the point of the scalpel, as Mr. Bowman did, surrounded the little wound. The other area as evidently comes from the edge, and is a consequence of the surrounding inflammation. Mr. Bowman would have taught us to understand both as results of a "change of the natural acts of nutrition having their seat in the wounded part;" and particularly he would have regarded the central cloud—that which immediately surrounds the wound—as directly dependent on nutritive disorder of the corneal tissue irritated by the seton, and the marginal opacity as evidence that similar changes were beginning in the neighboring vascular parts. Experiment shows that the true explanation is much simpler than this. The reason why the little punctured wound surrounds itself with a cloudy border is, that cells resembling the colorless corpuscles of the blood exist in the conjunctival sac, and find their way by the breach into the little branching tubes which permeate the tissue in every direction; the proof of this being, (1), that, if we place a dead cornea, in which a puncture has been previously made, for a few hours under the same conditions as those to which the living cornea is normally exposed, we find that it remains transparent everywhere excepting in the neighborhood of the injury; and (2) that we may destroy the tissue of the living cornea by other means, to an extent far exceeding that of either the seton or the puncture, without any such results. We may, indeed, destroy half the organ without producing any opacity whatever, provided the agent is of such nature as not to disintegrate its protective epithelial covering, and thus open the way for the immigration of cells from the outside. The agent which answers this purpose is chloride of zinc, which, as a caustic, has two invaluable properties. One is, that its action produces very little change in the mechanical properties of the tissue acted on; another is, that it kills up to the limit. When it is applied to the cornea over a carefully limited surface, it leaves behind a scarcely visible opalescence; but the tissue is absolutely dead—the necrosis extending in depth, so as to effect two-thirds or more of the corneal tissue. Here, again, the effect, so far as concerns the recognized signs of inflammatory reaction, is usually *nil*. There is no opacity—no surrounding zone of congestion. If you examine the cornea microscopically, what you find is, first, that within the region of necrosis the branched corpuscles which are characteristic of cornea have become so attenuated as to be indistinguishable; secondly, that immediately outside of the dead part, these bodies are shrivelled into shapeless masses, like little fresh water polyps which have drawn in their tentacles; and finally, that beyond this clump region, the fixed corpuscles present in every way their natural aspect. If the chloride be applied near to the limbus, the case is quite otherwise. Notwithstanding its little tendency to spread, the episcleral blood-vessels are acted on, and fill with blood. The result of this is that thousands of colorless blood-corpuscles invade the cornea at the congested border, and find their way to the necrotic region, where, from the absence of the normal fixed corpuscles of the cornea, they are the more obvious. In this case, at all events, there can be no question of perverted nutrition; for the tissue which is the seat of the change is as lifeless as a bit of finger-nail. The whole process, indeed, is so self-evident, that neither comment nor explanation is necessary. You have before you a dead tissue, of which all the "natural acts of nutrition" of which Mr. Bowman spoke have ceased; but this dead tissue is as full as it can hold of living cells. If anything is clear, it is surely this—that they were not born there, but were imported from elsewhere; and, if not from the blood-stream, whence?

Let us, before we proceed further, sum up what we have learnt from the cornea. It is the type or representative of those structures which, under the term connective tissue, we recognize as constituting the connecting and supporting parts of our bodies. It consists of a system of branched cells, each of which is united with its neighbors by its branched processes—these being sheathed in a matrix, of a texture identical with that of a non-cellular part of ordinary connective tissue, but possessing those physical properties which fit the organ for its purpose. This matrix is hollowed out into intercommunicating channels, which, in form and branching, are the counterparts of the complicated network of protoplasm they are intended to contain. In every respect, therefore, excepting one, the cornea is a complete tissue of its kind; and, if such tissues in general are to be supposed capable of responding to injury in an active way—*i. e.*, by continuing their "natural acts of nutrition in an unnatural, abnormal, or perverted way"—there is no reason whatever why the cornea should not do the same. Trained as we all have been in the "cellular pathology," we expect this, as it were, instinctively; but what we actually see is quite different. At the border of the faint eschar made by chloride of zinc, we see, on one side health; on the other, not disease, but death; no reaction—no perverted nutrition—nothing but damage. So far, therefore, as can be learned from a non-vascular structure. the damage done by injury, whether mechanical or chemical, is exclusively negative. It consists in arrest or annihilation of function, not in perversion.

3. *Origin of Inflammation in Vascular parts. In such parts which have been damaged by heat or cold, inflammation comes into existence d'emblée.*—Let us now see what happens in the more common case in which the injured part is vascular,

But before doing so, let us consider the question which has to be answered. In injuring the cornea, we act directly on cells, fibres, ground-substance, nerves. We have seen what the result is. In acting similarly on a vascular structure, we have the same cells, fibres, ground-substance, nerves, but, in addition, blood-vessels To prove this, it is desirable first to select for the purpose agents which, in accomplishing their work, leave nothing behind them excepting the damage they have done, and, secondly, to compare what happens in two cases—one in which the injury is of such a nature, as to effect all tissues equally, the other in which its action is specially directed to the vessels.

.For the purpose of acting equally on all tissues, there is but one method that can be thought of, application of cold or heat. It is not necessary to have recourse to a very high temperature. Plunging an organ in water not much warmer than you can easily bear with your hand, is sufficient to accomplish all that is required, provided that, before the immersion, the circulation is arrested by an Esmarch's bandage. The organ used by Cohnheim for the purpose was the ear of the rabbit. The result is in the highest degree worthy of our attention. The immediate effect is of course, *nil;* but if, after the ear has regained its normal temperature, the ligature be removed and the circulation restored, it is seen that, in a very short time, the signs of inflammation—not merely of active congestion, but of true inflammation—present themselves; and in an hour or two, the organ is warmer than its fellow by several degrees, full of blood, and swollen to several times its previous thickness. At first, the redness is seen to be due to the dilitation of blood-vessels previously distinguishable, and to the appearance of new ones where none were visible before; afterward, as the œdema increases, the organ acquires an uniform diffused redness. If at this stage, the skin be punctured, coagulable liquid, charged with leucocytes (pus-corpuscles), escapes. If the animal be killed, and the swollen ear, after having been suitably hardened, be used for the preparation of microscopical sections, it is found that the subcutaneous tissue exhibits in every respect the character of inflammatory infiltration.

In the experiment I have just described, the part is subjected to two injurious actions simultaneously. It is deprived of blood, and its temperature is raised to about 10° above the normal. It is to the latter of these that the damage is alone attributable: for it is well known that the exclusion of blood from a part, for six or seven minutes has no permanent effect. If, however, the state of anæmia be kept up for twenty-four or forty-eight hours, the case is very different. It might be expected, indeed, that so long a starvation of the tissue would definitely destroy its vitality. If the bandage be kept on too long, this anticipation is realized; but in this case the time may be so regulated that the damage thus slowly inflicted on the starved part, is similar in degree to that which was occasioned in a few minutes by the influence of heat, or it may exceed or fall short of it. In any case the objective signs of damage are of the same kind. When the ligature is removed, blood finds its way along its accustomed channels, and for a time there is nothing to indicate that the apparent restitution of natural conditions will not be permanent. But, if the ear be examined half an hour afterward, it is seen that arteries are dilated, and that its temperature is already higher than it should be. I need not repeat here the description of the process, which, although of less rapid development, is identical in its results with that we have already had before us.

Here, again, the lesson to be learnt is so obvious that it scarcely needs indicating. The two experiments prove that an organ which is thoroughly damaged—or, to put it in other language, of which the vitality of every tissue is depressed, but not annulled—is already virtually in a state of inflammation, although from the absence of the circulation (on condition of which almost all the visible characteristics of vital changes are dependent) the objective signs of it may be wanting; that in such an organ, the state of inflammation springs at once into existence, without any antecedent stage of incubation or development; and, particularly that the formation of pus, which is commonly regarded as rather a consequence of inflammation than as a part of it, begins from the moment that the damaged vessels are distended with blood, and the internal surface of the walls pressed upon by their contents. To those who still find it difficult to realize that pus-corpuscles are not formed by some bioplastic process in the tissues, the experiment may be recommended as affording one instance, at least, of the formation of pus, to which such an explanation is inapplicabie, the rate of production of young cells being far too rapid to be thus accounted for.—*British Med. Jour.*

SYMMETRICAL NEURALGIA IN DIABETES.—M. Worms read a paper upon this subject before the Academy of Medicine in Paris, in which he arrived at the following conclusions: 1. There is a special form of neuralgia peculiar to diabetes, which is distinguished by the fact that it occurs in the two symmetrical branches of a nerve. 2. Hitherto this symmetrical neuralgia has been observed in the sciatic and dental nerves alone. 3. The neuralgia occurring in diabetes appears to be more painful than other varieties. 4. It does not yield to the ordinary treatment of quinine, morphine, the bromides, etc., and it becomes more severe, as the sugar in the urine increases. 5. This form of neuralgia is placed in a separate category under the head of the diabetic neuralgias.—*Paris Med; Lon. Practitioner.*

CATHETERISM OF THE TRACHEA IN CROUP.—A correspondent writes (*Brit. Med. Journal*), that he was called to a girl two and a half years old, for croup. It was evident by the pulse, which was about 150, and almost inperceptible, that unless some relief could be given, the end was not far off. The face gradually became pale, and wore a distressed expression, and the lips were of a livid blue color. As the mother objected to tracheotomy, and as emetics, hot baths, and the ordinary routine treatment, had been previously tried, I introduced a large (No 12) gum-elastic catheter into the trachea, with less difficulty than I anticipated—having first gagged the child's mouth with a cork, for the want of something better, and depressed the tongue with a spoon. After a severe paroxysm, she succeeded in getting a pretty good breath, and the next expiration was followed by the ejection of muco-purulent *débris* and sticky phlegm through the tube. In about ten minutes these convulsive efforts ceased—the child, in the meantime, getting a good amount of air into her lungs. In half an hour her face was flushed, but had lost its lividity, and the breathing was fairly comfortable. The tube was retained by tape tied round the child's neck, and was removed twenty-four hours after its insertion, when the temperature had fallen to 100° Fahr. and the pulse to 100. Five days later she was running about the house, withnot much the worse difficulty in swallowing liquids after the first two or three attempts, when the tube had been introduced.—*Med. and Surg. Reporter.*

IODOFORM IN THE TREATMENT OF DISEASES OF THE SKIN.—Mr. Fraser has obtained very favorable results from the use of iodoform in various diseases of the skin. It may be readily employed in the form of an ointment of any required strength, mixed either with lard or vaseline. The strenth of the ointment made use of has ranged usually from ten to thirty grains of iodoform to the ounce of cerate, but double this quantity can be applied. It has proved a most useful remedy in healing local eczematous eruptions occurring in strumous children and young people, as well as in cases of impetigo. Mr. Fraser also directs attention to the properties it posseses in curing porrigo decalvans. The best results he has as yet attained have followed the application of vesicating collodion over the affected spot and for a short distance around it. Previous to this it is well to epilate all diseased hairs over the spot, and when the blister is healing the ointment of iodoform should be applied night and morning, or oftener; by this treatment the hair soon reappears in a healthy condition.—*Brit. Med. Jour.*

AGARICUS IN THE NIGHT SWEATS OF PHTHISIS.—Mr. J. M. Young classifies the results of his observations as follows:

1. Night sweating becomes proportionately lessened according to the amount of the drug administered; and, if sufficient doses be given, becomes effectually checked or prevented, according to the time of administration.

This was observed to be the absolute rule in all moderate cases of phthisical night sweating where it was tried, and in one case, where the sweating was colliquative, agaricus brought the sweating within moderate limits. In other cases of sweating not dependent on phthisis the drug was found to work well; indeed, its most notable effect was observed in the case of a patient who had had sweating of the right side of his body and right leg persistently at night for eight months, and in which a dose of ten grains stopped the symptoms for a night almost at once.

In the quickness of its action, agaricus resembles atropia. Like atropia too, the effect is not permanent.

2. The effect of the drug against sweating is not more marked than its effect in promoting sound sleep, and relieving troublesome cough, especially of phthisis. This is the most notable fact to the patients themselves, a gradually increasing feeling of drowsiness following its administration in most cases.

The antihydrotic and soporific effects of the drug are probably distinct from one another, and not to be related as cause to effect, since, in some of the cases observed, sweating was always complained of as occurring *during* sleep, the body being covered with prespiration on awakening. Cessation of cough may, however, be the result of soundness of sleep.

3. Strict investigation seemed to show that the drug has considerable influence in reducing the temperature, in cases of phthisis at least, where the fever is unstable, as much as two degrees of a fall having been observed within half an hour after administration of 1-12th of a grain of agaricine. Such a marked result was not always obtained by repetition of the experiment in different cases; but the fall observed in this way averaged 1.4°; and had its expression in a relieved feeling on the part of the patient.

Along with the effect on temperature, it may be noted that the rate of the pulse becomes usually reduced to a corresponding degree, but this effect has not been invarably noticed.—*Glasgow Med. Jour.*

A SALIVARY STONE.—Dr. E. V. Mully reports in *El Siglo Medico* that he has had an opportunity to observe the development of a salivary calculus in his own mouth. The difficulty then slight, arose in June 1879 at a point a little below the tubercle on the right side of the frenulum, corresponding to the location of Wharton's duct. By pressure with the tongue in a certain position, he could cause to flow from this orifice a somewhat concentrated saliva. On account of increasing interference with the movements of his tongue, so that the swallowing of solid substances was rendered impossible, the patient determined on the 1st of August, to attempt his own relief. By passing into his mouth his thumb, forefinger and middle-finger and making firm pressure over the duct he forced out a large quantity of acrid, fetid, yellowish-green ichor, in which he found a hard, ovoid stone of a bright yellow color, rough externally, 15 mm. long, and 6 mm. broad, 4 mm. thick, with a circumference of 35 by 14 mm., and weighing 32 grammes.—*Deutsch Med. Zeitung.* J.M.F.

PERISTALIC RESTLESSNESS OF THE STOMACH.—Prof. Kussmaul, by peristalic restlessnes, means the very marked wave-like movements of the whole stomach, which are only quieted when the stomach is completely empty of food. They are best observed in greatly-dilated stomachs with hypertrophied muscular walls, in cases of cicatricial contraction of the pylorus or duodenum. The excessive muscular action of the stomach is only an endeavor to overcome the mechanical obstruction. Sometimes it appears that similar movements may be neurotic, and not due to mechanical obstruction. He gives the case of an elderly nervous woman, in whom sorrow had caused diminished appetite, constipation, and slow wasting for two years and a half. Then, in consequence of the misuse of purgatives, she got dyspepsia. There were never any symptoms of ulceration. On examination there were observed a low and subvertical position of the stomach, moderate dilatation, and excessive peristaltic movements. In considering these three points, Kussmaul observes that with a pylorus at the normal height the deepest part of a stomach of normal size may descend below the umbilicus, and take the appearance of a loop of intestine. Such a depression of the stomach often leads to the incorrect diagnosis of dilatation when splashing, cooing, or slapping noises are present. These must not be confounded nor considered as of the same meaning. Splashing noises occur when water and air are shaken together by movements either of the whole body or of the whole stomach alone. Cooing and slapping noises are best produced when the stomach only contains air, and when the abdominal wall at the epigastrium is quickly protruded and retracted by the patient himself, or pressed in several times successively by the physician. Cooing and slapping noises do not justify diagnosis of dilatation of the stomach, and even when splashing noises occur below the umbilicus, dilatation can only be diagnosed when simple depression of the stomach can be excluded. The vertical position of the stomach, however, always disposes to dilatation. With regard to the entrance of bile into the stomach, the author observes that in washing out the empty stomach the water is often found to be tinged with bile. In other persons who also suffer from nervous or catarrhal dyspepsia without contraction of the pylorus or duodenum, bile is never found in the stomach in the morning. The reason why bile in some persons almost always passes into the stomach, is probably to be found in a difference in the formation and position of the pylorus and duodenum. The reason why bile passes more easily into the empty than into the full stomach is probably that in the empty stomach the circular muscular fibres of the pylorus are relaxed. When carbonic acid is generated by an effervescing powder in the empty stomach it passes very quickly into the intestines, provided there is no organic closure of the pylorus or duodenum. This incontinence of the pylorus is purely physiological. The author is unable to say whether the peristaltic restlessness in his patient continued during the night. Peristaltic mevements of the stomach are abdominal when it is empty, and at no time should they be consciously perceived by healthy persons; whereas, in the case just mentioned, the feelings of movement and contraction were very disagreeable. Despite the restlessness there was constipation. The restlessness is especially marked in those cases of dilatation of the stomach where the vomited matters contain much acid. This fact suggests that the acid of the fluid contained in the stomach stimulates the peristaltic movements. Peristaltic restlessness is connected with conditions of the nervous system like those nervous tormina so frequent in hypochondriacal and hysterical patients. —*Volkmann's Sammlung Klinischer Vorträge*, No. 181, in *Praktischer Arzt*.—*Practitioner*.

PSYCHICAL DISTURBANCES RESULTING FROM CEREBRAL HEMORRHAGE.—Dr. Mendel of Berlin, contributes an article upon this subject in the *Deutsch Med. Woch.*, of which the *D. Med. Zeitung* makes the following abstract:

By far the most frequent form of psychical disturbance following cerebral hemorrhage is a mental debility which may be exhibited in all varieties of degree, from the slowly acquired haziness of intellect to the most profound imbecility. In an other class of cases intelligence and thought appear but slightly impaired and frequently indeed exhibit no defects, but the patient becomes irritable, is easily moved to tears, at other times remaining unaffected amidst the most trying circumstances. Occasionally, though seldom, there is a third form of psychical disturbance. Dr Mendel has seen it only five times, all of which were in patients suffering with right hemiplegia. In these cases besides the psychical disturbances described above, there were developed a series of illusions with hallucinations and derangement of the senses, so that the patients presented almost the picture of violent insanity. The three cases contributed by Mendel terminated in recovery, if we leave out of consideration a slightly defective memory that was left. That a progressive paralysis may develop as the result of cerebral hemorrhage has been repeatedly affirmed, but the author is of the opinion, from his present investigations, that no positive conclusion can be drawn with regard to the relation between the two diseases. J.M.F.

INFECTIVE FORMS OF NEPHRITIS.—Dr. Dreyfus-Brissac, in the *Gazette Hebdomadaire* of January 13th, 1882, analyses a memoir by Professor Bouchard on infective nephtitis, which was communicated to the International Congress held here last year, and is reproduced in full in the *Revue de Medicine*, 1881, p, 671. This work, of which the conclusions are based on fifty clinical observasions, may be taken as the most distinct application hitherto attempted of the doctrine of parasitism to nosology. That infectious diseases have a reflex influence on the kidneys, is a fact which has been long since recognized. No one ignores the production, in the course of these diseases, of albuminuria, generally transitory, but sometimes lasting, which may even be accompanied by uræmic phenomena, and which must often be referred to inflammatory or degenerative changes of the kidneys. But the pathogenesis of these various functional or organic disturbances has remained obscure in many cases. The only hypothesis which has been put forward is the very plausible one that attributes the albuminuria to the dyscrasia engendered by the disease as a whole. In this manner should be comprehended the genesis of so-called febrile forms of albuminuria which are frequently observed in the course of general diseases. But, in proportion as contemporary researches have demonstrated the considerable pathogenetic part played by the inferior organisms, it has become a question whether, concurrently with the principal foci of germination of microphytes, secondary foci might not establish themselves, and the complications of infectious diseases might not be considered as the result of the accumulation of microphytes in various regions of the body. If, for instance, the bacteria of typhoid fever migrate from the intestine toward the kidney and there find a favorable soil for development, infective nephritis, in the true sense of the word, will be set up.

Microscopical observations and experimentation, in the hands of numerous investigators, such as Birsch-Hirschfeld, Grawitx, and Cohnheim, have furnished proof that, in various infective processes, microphytes may, on the one hand, accumulate in the vascular system of the kidney, and, on the other hand, become eliminated by the urine. It is especially the extensive researches of Klebs and Letzerich (*Arch. für Exper. Path.*, Band viii, ix, xii, xiii) which have brought this fact into full prominence. In the same order of ideas, may be noted Kannenberg's article on albuminuria in typhoid fever, published in the *Gazette Hebdomadaire* for 1881. No one, however, besides Kannenberg, has endeavored to construct from these somewhat scattered data, devoid of all clinical indications, the pathological history of infective nephritis. M. Bouchard has been the first to show that it may be recognized during life, and that it furnishes valuable information of the prognosis of the disease whence it originates. Although M. Bouchard has noted processes of this kind in a number of infectious diseases, such as measles, erysipelas, puerperal fever, typhoid fever, and tuberculosis, it is principally in the specially infective pyrexia, typhoid fever, that he has studied them; and it is typhoid nephritis which he has especially described. In his article above mentioned, M. Bouchard attaches great importance to certain physical characteristics of the albumen of the urine. When albuminous urine is treated with picric acid, the liquid sometimes remains uniformly turbid or opalescent. "Sometimes, on the contrary, the albumen thus precipitated contracts in a single mass or in their particles at the same time as the liquid clears itself. Whilst the first variety of albuminuria—that of the known retractile albumen—belongs to the dyscrasic conditions, retractile albumen shows the existence of nephritis; and experience shows that typhoid nephritis is an infectious nephritis; for, so long as the albuminuria lasts, the urine contains bacteria identical with those found in the blood or in various pathological fluids, and with those which are met with in the original foci of infection amongst Peyer's patches.

The other urinary changes are the same as those of all forms of acute nephritis; the presence of casts in varying quantity, and sometimes an accumulation of blood corpuscles more or less malformed, and hæmaturia in variable amount. In some cases the renal complication shows itself by other symptoms, such as lumbar pain, œdema, or even eclamptic symptoms, as in Renau's case (*Arch. de Phys.*. 1881); sometimes this train of symptoms is sufficiently intense to justify the denomination of "renal dothienteneria" (Gubler), but in most cases nothing of the kind occurs. It is by the examination of the urine alone that infectious nephritis is discovered. This investigation should never be neglected, for the facts brought forward by M. Bouchard, prove that infectious nephritis has a considerable prognostic value in typhoid fever. Out of his twenty-one typhoid patients in whom the kidneys were thus affected nine died. M. Dreyfus-Brissac found that, in three similar cases, two ended fatally; and in the patient who recovered, the albuminuria became chronic. According to M. Bouchard, the nephritis generally shows itself during the infection period of the disease, as it is discovered in a very short period of time—from three days to a week.

M. Bouchard describes the pathological characteristics of this nephritis as follows. Examination with the naked eye shows increase in the size and weight of the kidneys. The cortical substance is either greyish or congested, while the medullary substance is perfect. The microscope shows the integrity of Henle's tubes, catarrhal change in the collecting tubes, and especially in the tubuli contorti, in which the epithelial cells are swollen and adhere, showing a very marked granular degeneration.

From the pathogenetic point of view, a very important fact is noticed, that, in the examination of the kidney in the fresh condition, it is extremely difficult to find the presence of very numerous bacteria. In sections prepared after hardening, and made transparent by carbonate of soda, the bacteria appear in a very manifest way in the interstitial tissue and in the lumen of the tubules. These data are conformable with those resulting from Leitzerich's researches. Thus infectious nephritis does not only show itself by retractile albumen; it is not only in the urine, it is also in the kidneys, that the offending matter is found, under the form, not of common micrococci, which might be attributed to a process of decomposition or putrefaction, but of specific baciliary bacteria.

It seems established that in infectious disease, besides the generally recognised functional disorders, a renal complication of a much more serious character, the sole cause of which is the presence of the characteristic bacteria of the disease, may be produced. It must not here be imagined that this is a question of exceptional facts or of pure pathological curiosity. Taking only typhoid fever, it may be said that the infectious agent of that disorder has preference for the kidneys; for, out of sixty-five typhoid patients in his hospital practice, M. Bouchard discovered infectious nephritis in twenty-one cases. The micro-organisms of other infectious diseases doubtless have not an equal affinity for the kidneys; if renal complication be exceptional with certain of them, it is, on the contrary, more frequently observed than in typhoid fever in the course of other febrile diseases, such as scarlatina and diphtheria. It is likewise to be remarked that no other morbid process is known in which the renal complication is the first in order, or may be considered as forming part of the ordinary train of symptoms of the disease; in other terms, it is always in the secondary condition that infectious foci seems to be produced in the kidneys; whilst in other organs, such as the lymphathic apparatus of the intestine, the lungs, and the tonsils, are often the seat of primary contamination.

M. Bouchard inquires into the probable termination of an infectious nephritis. It may be questioned if the cure of infectious nephritis is definite, and if certain forms may not be considered as the origin of obscure types of chronic nephrites. Infectious nephritis may, in fact, pass to the chronic condition, as proved by the four cases quoted by M. Bouchard.

To sum up; from the study of M. Bouchard's work two facts of great importance, from prophylactic and therapeutic points of view, may be gathered with regard to infectious nephritis. We must henceforward reckon the urine as a means of contamination, and not recognize the feces as the only means of diffusion and propagation of certain morbid germs—a conclusion which is of great importance from a hygienic point of view. On the other hand, as soon as it is established that true bacterial discharges may be made by the urine, the old aphorism—*quo natura vergit, eo tentandum*—finds a fruitful application in therapeutics. The indication imposes upon us the necessity of favoring by all proper means the crisis by abundant discharge of urine. We should endeavor to eliminate the poison by all the methods of excretions; and the evacuant method, always in favor with the lay public by a sort of instinct throughout all revolutions in medicine, seems to have found new support in the contemporary conceptions of infectious diseases.—*Brit. Med. Jour.*

French Treatment of Itch.—At present itch is cured in one and a half hours at St. Louis Hospital. The first half-hour, the patient, absolutely nude, rubs himself from head, or rather neck, to foot, with soft soap. The second half hour he is put into a tepid bath, where he continues the soft soap frictions. The third half hour he rubs his body with Helmerich's sulpho-alkaline ointment. He puts on his clothes without washing off the ointment, so as to keep it in contact with the surface for twenty-four hours. While the patient is treating himself, his clothes are purified in a specially constructed stove at a temperature of 120°, and exposed to sulphur vapour. Four thousand itch patients are treated here (St. Louis) annually. The hospital treatment is a rough one and sometimes causes attacks of eczema. It may be mitigated thus: toilet soap is sbustituted for soft soap, and hardy's modification of Helmerich's ointment used—lard 100 parts; sulphur 16 parts; bicarbonate of potash 8 parts, by weight. The patient should have his sheets and all underlining changed immediately. —*Med. Times, from Gaz. de Hopit.* — *Canada Lancet.*

Greslon on the Treatment of Sciatica by Hypodermic Injections of Nitrate of Silver.—Dr. Greslon reports (*La France Med.*, Sept. 26, 1882) the radical cure of a case of sciatica, which had resisted all ordinary methods of treatment, by hypodermic injections of the nitrate of silver. The patient, a lady 53 years of age, was of a gouty and rheumatic diathesis. She had recently suffered from several attacks of acute articular rheumatism. Her metacarpo-phalangeal articulations presented the characteristic deformities of arthritis deformans. In March '79, the patient was attacked by sciatica in the left thigh and leg. The most severe pain was experienced in the calf and at the sacro-sciatic foramen. After unsuccessfully treating the case for twelve days with sinapisms, vesicatories, and anodynes, Dr. Greslon injected five drops of a twenty-five per cent. solution of nitrate of silver into the deeper tissues of the calf, at the most painful part. The injection was attended by a violent pain, and followed by the formation of an abscess which was opened at the end of a week. A few days later, the neuralgic pains had completely ceased in the leg. Eight drops of the same solution were then injected over the sacro-sciatic foramen. No abscess ensued, but an inflammatory exudation occurred, and discharged, six days after the puncture, some sero-sanguinolent matter. A week later, all pain had disappeared from the limb. The patient has had no relapse of the sciatica.—*Lon. Med. Rec.*

At the Medical Society of the Hospitals M. Kiéner read a report of the case of a man 34 years of age, who, after taking 60 grammes of pomegranate root, followed in two hours by a dose of castor oil, passed 720 grammes of tænia. The fragments placed end to end measured 70 metres, and there were 27 heads of tænia unarmed counted. M. Kiener recommends the dose of oil to be given not longer than two or two and a-half hours after the pomegranate root as the tænifuges do not kill the worm, only stupefy it, and they hold loosely to the mucous membrane. —*L'Union Méd.*

SURGERY.

The Iodoform Dressing in Surgery.—Continued.—Having now considered pretty fully the various questions incident to the application of the dressing, it remains for us to investigate how long the dressing may remain unchanged. The indications for a change of dressing may be relative or absolute; as absolute indications we may regard sudden elevation of temperature, or secondary hemorrhage; relative indications are furnished by saturation of the bandage, pain or itching in the part, and they may be called relative indications inasmuch as the change of dressing is made for the comfort of the patient, and not because the healing of the wound would be unfavorably influenced by its remaining. The mere saturation of the bandage need not necessarily lead to a change, since the iodoform remaining in the wound prevents all tendency to decomposition. Surgeons should always make it an axiom in adopting the iodoform dressing to keep the wound at rest as much as possible and never to change the bandage unless it be absolutely necessary. The progress of wounds treated with iodoform is unattended by fever from the outset; when fever does occur, it rarely reaches a high temperature and seldom lasts for more than a few days. Even though the temperature occasionally reach 102° F. the tongue remains clean and moist, the head is clear, appetite good and sleep tranquil. Should there be a considerable elevation of temperature later on in the course of healing it indicates a retention and resorption of secretion, unless some directly traceable cause exist; and the dressing is then to be changed without any hesitation. Attention need scarcely be called to the fact that in this change of dressing all gentleness and care are to be observed toward the patient. The layer of iodoform originally left in the wound is not to be replaced, unless it have all disappeared; which fact makes the iodoform dressing the cheapest of all antiseptic dressings, notwithstanding the high price of the powder.

Wounds treated with iodoform generally manifest an entire freedom from irritation; redness, swelling and pain are absent, and, should the dressing be changed, the wound is found as devoid of inflammatory reaction as it was immediately after the operation; the anodyne properties of iodoform cause the wound to be painless from beginning to end. It is only when the loss of substance has been so far repaired, that the granulations have grown to the level of the skin, that the time has come for a discontinuance of the iodoform, under the use of which cicatrization is apt to be protracted. It is advisable under these circumstances to favor cicatrization by light applications of caustics, among which subnitrate of lead is perhaps the most useful, since it is painless and equally as efficient as argent. nit.; it may be applied as powder or rubbed up in an ointment.

The secretions from wounds treated with iodoform is usually scanty and more serous than purulent in character; from which fact alone we can understand why healing should go on more quickly under the iodoform dressing; since no tissue passes off as pus, but all the energies of the inflammatory products are devoted to the process of repair; and an example is given in the original article showing that the wound had remained entirely free from sepsis even where another source of septic absorption had been found.

In regard to pyæmia the author gives in extenso the histories of three cases, in two of which the termination was fatal. One of these two refused all operative interference, the other was seen too late to obtain any benefit from operation. The possibility of saving pyæmic patients by removal of the primary centre of infection depends upon the kind of infection; in simple pyæmia, it is not only possible to do so, but it is highly probable that the result will be favorable. If, however, we have to deal with the metastatic form, an operation will be of little avail owing to the secondary centres of infection, which are so situated as to be inaccessible. The author has never seen any bad effects of iodoform upon recent wounds, nor has he heard of such in the experience of others. With the exception of erysipelas, no morbid processes occur in the wound, and erysipelas is of comparatively infrequent occurrence, only three cases having been observed in more than one hundred operations; in two of these, the cause was found to be a retention of secretion; in the third, erysipelas appeared the day after the operation. Inasmuch, however, as this last case presented a very high temperature on the day of the operation and had been examined with the sound several times previously, it is possible that the process had begun previous to any operation. If care be taken to prevent retention of secretion and the iodoform be applied according to the directions already given, we may confidently exclude the possibility of erysipelas in the wound.

Has iodoform any deleterious effect upon the organism? As is well known, its resorption is rapid and, as Rhigini has shown, its presence may be demonstrated in nearly all the fluids of the body, by the reaction with starch. Now, although the iodoform acts upon the organism by setting free a certain amount of nascent iodine, yet its action is different from that of all other iodine preparations, such as iodide of potash or sodium, which usually lead to a general emaciation, and irritation of nasal and pharyngeal mucous membranes; iodoform, on the contrary, causes rather an increase of the panniculus adiposus, gives color to the complexion and, generally stated, developes a tendency of the system to recovery. There are, however, some exceptions to this rule of its benign action and Zeisel reports two cases of extensive eruption on the surface of the body following the use of iodoform, the eruption being erythematous in character and unlike the usual iodine acne.

More serious results have also followed its use and there are, unfortunately, cases which have presented symptoms of iodoform poisoning and some cases of death from its use. Oberlander described two cases, in one of which about eleven drachms had been used in eighty days, and another in which eighty grains had been used in two days, the symptoms of poisoning being a sort of drunken feeling, followed by headache, particularly in occipital region, sensation of scratching in the throat, vertigo, delirium, great depression and weakness with terrible anxiety, spasmodic contraction of the facial muscles, diplopia, deep respiration alternating with apnœa, and later a condition of alternating delirium and coma. In about ten days after the appearance of the first symptoms the patients began to improve, and gradually progressed to complete recovery.

There have been reported thus far four fatal cases of poisoning, from the external use of this agent, two occurring in Billroth's clinic, two in the clinic of Fischer in Breslau. The patients of Billroth were both children, one being five, the other nine years of age, death occurring in the former on the twenty-fifth day, in the second on the twenty-eighth. The first child had a resection of the femur performed, about four ounces of iodoform being used to fill the wound; the progress was favorable until the twentieth day, when symptoms of poisoning set in; in the other case a cold abscess situated below the trochanter was opened and about ten drachms iodoform introduced into the cavity; nothing remarkable occurred until about the twentieth day, when diarrhœa set in followed by marked apathy, loss of appetite and occasional restlessness; on the twenty-sixth day meningeal symptoms set in; the pupils were wide, eyes convergent and staring, the child vomited repeatedly, was restless and had light spasmodic contractions in the upper extremities. On the twenty-fifth day all the iodoform was removed and supporting treatment instituted; the child, however, gradually sank and died in collapse on the twenty-eighth day. Autopsy in both cases showed no disease of the internal organs. The cases from the Breslau clinic were those of a man fifty-three years of age and a woman of sixty-three years. In the male patient resection of the elbow was performed for tubercular ostitis and fungous synovitis of the joint; the cavity *was tightly packed* with iodoform, of which between five and seven ounces were used, and the Lister dressing applied over the wound. On the third day after the operation patient very excitable and delirious at night, delirium resembling that from alcohol; the next day decided apathy, eyes staring, speech heavy, and urine and feces passed in bed. This condition lasted three or four days, the pulse becoming smaller and more frequent. On the eighth day the dressing was removed and the attempt was made to wash out what iodoform still remained; no improvement followed and death occurred on the evening of the next day in coma. At the autopsy some iodoform found in the wound, no marked affection of any internal organ. In the case of the woman, a para-articular abscess of the left knee was incised, a carious condition of the patella treated by scraping out the diseased bone, the fungous granulations lining the cavity of the abscess removed with the scoop and the entire cavity filled with iodoform, for which purpose four to five ounces were necessary, Lister protective dressing. In the first period after operation progress satisfactory. On the ninth day, violent headache, increasing during the night, and accompanied on the following day by great prostration, nausea and loss of appetite. Pulse increased in frequency, temperature normal, large quantities of iodine salts in the urine. The dressing was removed on the eleventh day and the wound found filled with granulations. The following day apathy and somnolence increased, on the twelfth and thirteenth the symptoms increased in intensity, coma set in, the pulse was small and frequent and death occurred on the sixteenth day. At the autopsy the wound was found in excellent condition, no marked affection of viscera.

Mikulicz distinguishes these last cases as chronic poisoning in contra-distinction to those in which the symptoms appear from twenty-four to forty-eight hours after operation and disappear on the third or fourth day, which cases he calls acute. In the last cases above mentioned it was noted that there was no particular disease of internal organs; there was, however, slight fatty degeneration involving the heart, liver and kidneys, and this may be referred to a direct toxic effect of the iodoform employed in the dressing. In studying the conditions under which it develops this influence, we find that these are such as lead to a rapid resorption of considerable quantities of the agent. Two factors are active in bringing this about, the first being the use of an excessive quantity, the second being the pressure to which the part is subjected by the dressing, as seen in one case of Henry's[1] where the wound is tightly filled with iodoform. And, as to quantity, we see in the cases above cited 120 grammes in a child of five years, 40 grammes in a girl of nine, and in Henry's cases 4—5 oz. and 5—7 oz. respectively employed in the wound itself. But Gussenbauer employed in one case of resection of the calcaneum as much as seven ounces without any unfavorable results, so that the pressure must play a prominent part, and the author cannot insist too strongly on proper precaution with regard to it; a permanent tight dressing and the filling of the wound are, as already shown, not only unnecessary, but harmful and dangerous. It remains to be seen whether there may not be an idiosyncrasy on the part of some individuals rendering them peculiarly susceptible to this agent. The author has never lost a case from poisoning with iodoform, because he never uses more than twenty to forty grammes, and at the most, and then only in adults as much as two ounces at one time, and the bandage is never applied so as to remain tight for any length of time. The danger of poisoning depends not only upon the quantity of iodoform applied, but upon the extent of wounded surface as well, the larger the surface the greater the chance of excessive resorption. J.R.

(To be Continued.)

Suppression of Urine Threatened Several Times After Ovariotomy. — Mr. Knowsley Thornton brought forward this case. On each occasion, packing the arms in cold wet towels relieved the symptoms, and the patient made a good recovery, and has remained in perfect health since. The following is a brief outline of the case:

J. W., aged 39, married, and the mother of two living children, the youngest aged seven and a half years, was admitted into the Samaritan Hospital in October, 1880. An abdominal tumor was first noticed in the last pregnancy (Sept. 1879). A few weeks before admission Dr. Pierce, of Denbigh, tapped the tumor, and removed twenty-four pints of greenish fluid. On admission she looked older than her age, and had a waxy skin. The kidneys acted badly, and the skin was dry and harsh. There was no albuminuria. Ovariotomy was performed on November 4th, 1880, and a tumor of the right ovary removed, weighing, with contents, twenty-eight pounds. The operation was of average difficulty; a good deal of sponging was necessary; it occupied an hour. The temperature and pulse rose rather rapidly; and on the day after the operation the urine was scanty and dark, and the kidneys were very irritable. Digitalis and citrate of potash were given, and the next day the urine was free and loaded with lithates. On the fourth day the renal irritability returned, and the temperature and pulse rose again. Sympathetic vomiting came on; and on the sixth day, the condition appearing critical, the arms were bared and packed in cold wet towels, which were kept wet with iced water. In twelve hours all bad symptoms had disappeared. The towels were allowed to dry, and in five hours the patient was as ill as ever. The towels were wetted again, and were kept on for forty-eight hours, during which time the patient appeared quite well; and the wound was dressed for the first time, and found soundly healed, and all the sutures were removed. The towels were removed; but during the day the kidney-symptoms and sickness gradually returned, and they were reapplied. Temperature and pulse remained unaffected; but the kidney-symptoms at once yielded. On the eleventh day they were again removed: and on the twelfth, the temperature being normal, the patient was allowed to get up. A few days later she went home; and Dr. Pierce wrote that she was now in better health than she had enjoyed for some years. Mr. Thornton remarked that Mr. Doran had shown by his *Post mortem* observations that advanced granular disease of the kidneys was common with large abdominal tumors, and this condition frequently existed without any clinical evidence of its presence. In the present case no albumen was detected; and, though the kidneys acted badly before the operation, they were equal to the excretion of a fair quantity of urine, loaded with urates, on the second day after the operation. The symptoms, detailed at length in the paper, were clearly due to the condition of the kidney, and the application of cold wet pack to the arms on three separate occasions acted like a charm. To what was the rapid action to be ascribed? The author discussed the method of applying dry and wet cold, not only to reduce temperature, but to relieve serious internal congestions. In the latter class of cases he believed the action to be a reflex one through the nervous system, and not a mere cooling of the blood generally. He referred to the action of external chill in producing inflammations, and to the well-known action of counter-irritants. While believing that ordinary cases might be explained by one or other of the theories mentioned, he was still at a loss to explain the rapid action on the kidneys in this case from such a very restricted pack. The repetition of the treatment, and its unfailing effect on three separate occasions, and especially on the last, when the pulse and temperature remained unaffected, made it clearly a case of demonstrated therapeutic action, not a mere coincidence.

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[1] The cases of Fischer were reported by Henry.

The president said that in the case just narrated the same effects had been produced time after time. Had this not been so, it might have been said that the coincidence was accidental. Besides, Mr. Thornton had found the ice-cap of use in other cases, and this could hardly be due to a general cooling of the blood, or even of the brain itself, by the local application. It might, however, be brought about by the local influence of the ice-cap on the capillaries, in turn affecting the centers, and so ultimately the kidneys. He had shown that raising the arms produced not only an emptying of the veins, but a contraction of the arteries; and raising the hands was often useful in arresting epistaxis. So, too, in the same way, raising of the feet was sometimes useful in disease of the pelvic viscera; in one case he had known it to allay pain in the testicle, even though the action would seem to favor the accumulation of blood there.

Dr. C. T. Williams had tried the ice-bag to the head in some cases of pneumonia and some acute tubercular attacks. He had usually found it fail when there was much local change, but it seemed to do good when the pyrexia was of a more general character.

In reply to Dr. Wiltshire, Mr. Thornton said the operation had been done antiseptically. He had found the ice-bag of most service when the congestion was local.—*Brit. Med. Jour.*, Feb. 25, 1882.

LITHOLOPAXY IN VIENNA.—Until the adoption of the Biglow method, Billroth says that he had practiced lithotripsy on 43 patients, in two of whom he was compelled to suspend the operation and lithotomize. Of the other 41, the average number of sittings was 3½, and these never longer than from 10 to 15 minutes. Lately by litholopaxy the sittings have been prolonged, and in one recent case it reached nearly two hours, yet in none was there any excessive reaction or other accident. The only fatal case after litholopaxy was due not to the operation but to hemoglobinuria, probably due to poisoning by chlorate of soda, of which the patient had taken about ℥ xi within four days. *Dittel* has had ten cases of litholopaxy; all successful. He believes that in future lithotomy will be limited to children, to cases complicated with diverticula and to so-called pipe stones.—*Centralb. f. d. Med. Wiss.*, Dec. 24th.—*Maryland Med. Jour.*

TORSION OF ARTERIES.—At Guy's hospital all the surgeons use torsion to the exclusion of the ligature, except sometimes in very small vessels wherein it is difficult to isolate the vessel from muscular fibres. They give a very large statistical showing in its favor. I have seen every kind of amputation there except of the hip-joint, and never a ligature applied to a large vessel. They use no transverse forceps, but seizing the cut end of the vessel with strong forceps, twist it until it is felt to "give way"—that is, the two inner coats break. I have often seen six and sometimes ten complete turns given to the femoral artery. Mr. Bryant said: "Doctor, theoretically the twisted end ought to slough off, but *practically it never does.* We have to talk to our students about secondary hemorrhage, but we do not show it to them." Mr. Lucas told me that for a long time they have ceased to dread or look for secondary hemorrhage.—*Lon. Cor.*—*Boston Med. and Surg. Jour.*

EFFECTS OF EXCISION OF SYPHILITIC CHANCRE.—M. Mauriac reports (*Gazette des Hopitaux*, 1881, No. 7. 10, 14) seven carefully recorded cases in which he excised the initial lesion of syphilis. In six, excision was performed at periods varying from four to sixteen or eighteen days of the appearance of the sore. In the seventh case, the initial lesion was excised about fifty hours after it had been first noticed, and before there was the least trace of glandular enlargement, but in this, as well as in all the others, the operation was unsuccessful in preventing further development of the disease.—*London Med. Jour.*

OBSTETRICS.

Extirpation of the Uterus.—The removal of the entire uterus, when cancerous, either by the vagina or through an abdominal incision, and the removal of a pregnant uterus entire, excepting the cervical portion, constitute what are respectively known to specialists as Freund's and Porro's operations. The history of the latter and some clinical reports of the former will be found in last year's volumes of the *Journal.* During the last three months, both operations have been repeatedly performed in England. The success of Sir William MacCormac and Mr. Spencer Wells, in two cases recently under their care, are already well known to the profession, and are chronicled in our pages. We understand that at least five similar operations have recently been performed in London, all by well known and experienced operators, but all with fatal results. In two cases of Freund's operation it appears that, in spite of every precaution, one or both ureters were cut or tied; another proved fatal, after it had been performed from the vagina, on account of the impossibility of perfect drainage. A recent case of Porro's operation has also terminated fatally, and the cause of death is a point of importance upon which the profession ought to be enlightened. It is most desirable, for the purpose of sound scientific progress, that the greatest publicity be freely given to untoward as well as to successful results of these operations. They must be established, if practical experience shows that a fair proportion of favorable results justifies their establishment, in the same manner as ovariotomy was proved to be legitimate. If, in spite of all the improvements of modern surgery, the mortality in the hands of experienced operators remains as high as it seems to be at present, and if, in cases of Freund's operation, temporary recovery be frequent, but rapid recurrence of cancer be in such cases the rule, extirpation of the uterus will need to be the subject of further debate, study and improvement, before it can be accepted as an established operation. Considering the advantages under which modern surgeons work, the outlook remains hopeful. It is hopeless, however, to discuss the question profitably whilst the dangers, which have proved insuperable in cases already performed, remain unregistered in the archives of medical societies and journals. The profession will eagerly look, on that account, for the histories of the recent cases of Freund's and Porro's operations performed in England.—*British Medical Journal.*

Labor Complicated by an Enlarged Fœtal Liver.—An unusual complication in labor occurred to-day in the lying-in ward of Prof. Josef Spaeth, K.K., Allgemeines Krankenhaus. The patient was thirty-five years old, a multipara, with no history of previous labor complications. The last pregnancy presented no features worthy of special notice. Yesterday she fell in labor at full term; the bag of waters ruptured early. The diagnosis of head presentation, second position, was easily made, and the heart of the fœtus was heard to beat regularly. Twenty-four hours later, after a tedious first-stage, the head was born, but the trunk did not follow. After waiting some minutes, the midwife called the second resident accoucheur, Dr. E. Ehrendorfer, for assistance. Vaginal examination revealed the mouth of the uterus tightly encircling the thorax of the fœtus, while the uterus was tetanically contracted. After ineffectual attempts at extraction of the fœtus, the woman was chloroformed, when the spasmodic contraction at once ceased, and the fœtus was drawn out of the cavity of the uterus dead. The abdomen of the child was enormously distended by a slightly elastic tumor, occupying the position of the liver. The tumor offered far more resistance of the maternal passages than the head. Upon opening the abdomen the liver was found to be immensely enlarged, occupying the greater portion of the abdominal cavity, and infiltrated with syphilitic gummata. The placenta, which came away naturally, presented to the naked eye no abnormal appearances.

Baths for the Newly-Born.—Dr. F. Winckel, of Dresden, (*Centralb. f. Gynäkol.*, January 7, 1882), makes the novel suggestion of keeping certain newly-born children permanently in warm water. This he considers more useful than rolling them in cotton-wool, applying warm bottles, and keeping them in warm rooms. The following abnormal conditions are mentioned as being suitable for the permanent bath: 1. Children born between the 28th and 36th weeks. 2. Children born asphyxiated and weak from flooding during labor, or who have accidently lost blood from the stump of the cord. 3. Where there is disease or fretting of the skin. 4. In emaciation, to prevent bed sores. The author has employed this treatment successfully in cases such as those above mentioned, and gives details of temperatures and results.—*Glasgow Medical Journal*, March, 1882.

Two Cases of Hydatids of the Peritoneum Successfully Treated by Abdominal Section.—Mr. Lawson Tait read a paper on this subject at the meeting of the Midland Medical Society, on Feb. 1. In the first case, the operation was incomplete, because the hydatid had so matted the intestines together that the larger number could not be removed. All the cysts which could be reached were broken down, and a drainage-tube was inserted in the pelvis from above. The patient's symptoms previous to the operation were very severe, but they rapidly disappeared. The patient completely recovered, and the hytatid masses had entirely gone when she left the hospital, on the twenty-fourth day after the operation. The second case was of a more simple kind, for the parasites were contained in a cyst in the lower abdomen, which was completely emptied and drained through the wound. The patient made an easy, rapid and complete recovery.—*Medical Times and Gazette.*

Removal of the Uterus.—On Tuesday, Jan. 17th, Mr. Sydney Jones operated at St. Thomas'

Hospital on a woman aged 45, for the removal, through the abdominal wall, of a large fibroid tumor of the uterus. The tumor blocked up the pelvis, descending nearly to the anus and vulva, and seriously interfered with micturition and defæcation. The incision extended a couple of inches above the umbilicus. The bladder was drawn up considerably, the apex reaching to midway between the umbilicus and pubes; its anterior wall was exposed in the lower half of the incision. The bladder was dissected off the front of the tumor; the broad ligaments were ligatured and divided externally to the ovaries; and, after the peritoneum and other bands had been divided posteriorily, the tumor was turned out of the pelvis. The neck of the uterus was much elongated. The peritoneum having been dissected off, the neck was divided by the knife about an inch above the os, ligatures being applied to bleeding points; and flaps were united over the stump by catgut sutures. All was done antiseptically. The next day she vomited three or four times, and was being fed by nutrient enemata.—*British Medical Journal.*

OPTHALMOLOGY.

Tinnitus Aurium.—The author reminds his readers that in the previous number of the *Monatschrift* (No. 6, 1878) he drew attention to the fact, frequently established since, that blowing air against the walls of the external meatus, a large number of noises in the ear are quieted or made to stop entirely, while others are exaggerated or are not affected. This phenomenon has been attributed to reflex irritation of the vaso-motor nerves of the ear.

The same effect is produced by blowing upon the tongue, or by touching the ear with a cold probe or speculum. The injection of the nitrite of amyl increases the noises; blowing upon the ear makes them disappear. Finally, many other agents act in the same way, such as—chloroform, ether, the essential oils, electricity, etc.

M. Weil enunciates the following proposition: the noises that the blowing against the ear makes disappear are of vascular origin.

In fact, we could not understand this influence, except by admitting a reflex action upon the vaso-motor nerves. The contact of a cold probe could have but little effect on the acoustic nerve, whilst by exciting the skin, the state of contraction of the vessels is obviously modified.

As proof of the action upon the great sympathetic is the fact that after the blowing dilatation of the pupil is observed.

Now this in such a case, could only be produced by the great sympathetic; and on the other hand the labors of Prussak and Berthold have shown that the great sympathetic innervates the vessels of the ear.

Besides, many experiments have demonstrated that faradization of the great sympathetic in the neck, is followed by diminution of the inflammatory redness of the membrana tympani and the lining of the middle ear. A deep inspiration likewise causes the noises to cease; they reappear during expiration. The noises not made to cease by the blowing are generally due to the pressure of a foreign body, to a thickening of the membrane, etc.

In many cases the noises produced by disturbance of the labyrinth, are not modified by the jet of air.

In some cases patients complain of different noises, of which one ceases as the result of the blowing, whilst the other persists.

In some patients, blowing upon the ear excites vertigo; in others it makes the noises louder than before.—Weil, in *Annales des Maladies de l'Oreille*, etc., March, 1882. W.W.S.

A Symptom of Glaucoma.—According to E. Fuchs the glaucomatous eye shows a peculiar cloudiness of the cornea with loss of its lustre, which is essentially different from inflammatory opacity, and is directly dependent upon the increase of pressure.

The cornea which has been hitherto clear and brilliant becomes, during an attack of glaucoma, suddenly dim and covered with a faint cloud as if breathed upon by the breath. This cloudiness is always most marked in the centre, and disappears around the border without any sharp limitation. Reduction of the intra-ocular pressure dissipates it in a very short time to leave no trace whatever. As cause of this appearance, anatomical examination showed an œdema of the corneal parenchyma (dilatation of the nerve canals, and accumulation of fluid in the form of drops under the epithelium). Under rapidly increasing pressure a larger quantity of fluid is expressed into the cornea, which is dammed up in front of the membrane of Bowman, and here produces œdema and opacity, or cloudiness.—*Archiv f. Ophthalmologie*, xxvii, No. 3. J.T.W.

Earache.—In course of practice, you will often be called upon to attend a case of earache. This means, pathologically speaking, acute inflammation of the membrane tympani. Now, in such a case, you may quickly subdue the inflammation, relieve the patient from the excruciating pain he is suffering, and save him, perhaps, from subsequent confirmed deafness. The treatment from which such a desirable result may be obtained is similar to that which you will find so beneficial in analgous cases of eye disease, viz., leeches behind the ear; hydrarg c. creta and belladonna powders, with warm fomentations.—*London Lancet.*

Prophylaxis of Ophthalmia Neonatorum.—Crede has recently added to his 200 cases of observation of newly-born infants, 400 more. In 300 of these infants, at the same time with the first bath, both eyes of each child were carefully cleansed with a soft rag, and one drop of a two per cent. solution of nitrate of silver was let fall into each eye by means of a glass pipette. Although most of these children were born under most unfavorable conditions, in no case thus treated did ophthalmia neoatorum occur. Credé is very enthusiastic over this method of prevention of disease, and warmly recommends it as by far the most efficient means.—*Phila. Med. News.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, April 22d, 1882.

The Week.

"THE ORIGIN OF THE INFLAMMATION OF THE CONJUNCTIVA IN NEW-BORN CHILDREN IS NOW PERFECTLY ESTABLISHED, AND ITS PREVENTION IS ENTIRELY WITHIN OUR POWER." (Haussmann).—Such language, in reality no stronger than was justified fifteen or twenty years ago, ought to put a stop to reports of cases of ophthalmia neonatorum from our hospitals, basing thereon arguments for this or that method of treatment.

When it was my duty (at a period when it was unsatisfactory and disagreeable) to look after such cases, I insisted that their occurrence was a disgrace, so that finally the cases became so infrequent (or were kept a secret), I could not procure one for a clinical lecture.

Since that period we have had a very frank, ingenuous report embracing a service of several years, of the plan (and its success) of treatment resorted to in the City Hospital, a gross reflection on the obstetricians.

We trust the next report from the lying-in-wards, will record how "an ounce of prevention is worth a pound of cure" and that the percentage of purulent ophthalmias in the new born will be %.

W. W. S.

WE are in receipt of the following preliminary notice of the College for Medical Practitioners, St. Louis, Inaugurated, 1882.

Object: To teach Medical Practitioners, by practical instruction, the special branches of Medicine and Surgery.

There will be *twelve departments*, so arranged that Special Courses may be taken with as little loss of time as possible.

Full particulars with regard to the time that Special Courses may be taken, the kind of Clinics. the Terms, etc., will soon be ready.

The following gentlemen have been elected to fill a part of the Departments:

Thos. F. Rumbold, M. D.
Ewd. Borck, M. D.
W. Hutson Ford, M. D.
Wm. Dickinson, M. D.
W. B. Outten, M. D.
Col. F. T. Ledergerber, Att'y at Law.
C. H. Hughes, M. D.

Others who have also had especial advantages in their departments will be added.

For particulars, enquire of the Dean,

Dr. Thos. F. RUMBOLD,
1225 Washington Ave.

Or of the Secretary,

Dr. EDW. BORCK,
N. E. Cor. of Fourth and Market Sts.
St. Louis, Mo.

March 21, 1882.

This seems to forecast a new Medical College in St. Louis. The organizers named above are first class men.

ETHICAL RESOLUTIONS PASSED BY THE ST. LOUIS MEDICAL SOCIETY—The following resolutions were adopted by the St. Louis Medical Society April 1st, 1882.

Resolved: That the St. Louis Medical Society, while it desires to accord the broadest freedom to medical investigations and recognizes fully the right of individuals to form and hold private opinions, hereby declares that it regards with disfavor any steps taken to lessen or obliterate the distinctions and safeguards between an honorable practice of medicine founded upon science and that founded upon any of the current delusions and exclusive medical systems of the day.

Resolved: That a copy of this resolution be forwarded by the Corresponding Secretary to the New York State Medical Society, to the Permanent Secretary of the American Medical Association and to several specified Medical Journals.

WM. DICKINSON, M.D., *President.*

A. H. OHMANN-DUMESNIL, M.D.,
Recording Secretary.

Miscellany.

ABSORPTION AND EXOSMOSIS IN THE SMALL INTESTINE.—At a meeting of the Societé de Biologie, Feb. 5th (*La Tribune Médicale*), M. Lepine read a paper on the differences between the upper and lower portions of the small intestine as respects absorption and transudation. His main object had been to determine whether absorption occurred to the same degree in all parts of the small intestine. To this end he made numerous experiments in the following manner. The animals used were dogs. They were not anesthetized. After making an incision along the linea alba, two loops of intestine were drawn out, one in the upper, the other in the lower part of the small intestine. Having secured each of these portions between two ligatures, several cubic centimetres of a solution containing the proper quantity of a given substance were injected into the parts thus confined. These were then replaced and the abdominal walls closed by suture. An hour after the animal was killed. The quantity of the agent remaining in the fluid between the ligature in the two parts was then estimated and compared. The absorption of emulsions of oil, of glucose and of starch was found more active in the upper portion than below. Certain salts (sodium chloride and potassium iodide) showed the same variation.

The exosmosis was determined by introducing into the loops of the intestine a few cubic centimetres of a concentrated solution of sodium sulphate. The transudation occurred much more rapidly in the jejunum than in the lower parts of the intestine. J.M.F.

CAUSES INFLUENCING THE FORM OF BONES.—Prof. Lesshaft, of Petersburg, as a result of both original experiment upon animals and observations upon man, arrives at the following conclusions: 1. The bones develop more vigorously in all directions in proportion to the activity of the surrounding muscles; the activity of the muscles being impaired, the bones also grow thinner, smaller and weaker. 2. The form of the bones is altered immediately upon any diminution in the pressure of surrounding organs (muscles, skin, eyes, teeth, etc.); they become thicker and deflected toward the side bearing least pressure. 3. The form of bones is also influenced by the pressure of more external parts; they develop more slowly under greater external pressure, and will become curved under a unilateral pressure. 4. Fascias, which are under the immediate influence of the muscles, exercise a lateral pressure, so that a division of the fascia exerts an influence upon the bones similar to the impairment of muscular pressure on one side. 5. A bone must be looked upon as an active organ, with reference to the form of its construction, with reference to its design, as a means of support to surrounding organs; but it must be regarded as a passive organ with reference to the influence that is exerted over it by the causes which alter its external form. This depends chiefly upon the fact that these associated organs have the same source of nutrition; the nutrition then is increased on the side sustaining a diminution of pressure from surrounding organs and by an increased activity of neighboring muscles and *vice versa.*—(*Virchow's Archiv*, 87 Bd. 2 Hft.)—*Mediz. Zeitung.*

IODOFORM IN DENTISTRY. — Dr. Scheff, of Vienna (*D. Vtljhrsch. f. Zahukd.*), recommends iodoform, by virtue of its quick caustic action, as a means of relieving the pain of exposed dental nerves, especially as a substitute for the more severe caustic, arsenious acid, the application of which is attended with so much pain and is frequently followed by periostitis. The advantages claimed for the remedy are that while it is an efficient caustic, it produces no irritation, much less any inflammation of the periosteum and leaves no scars. In addition to this, the combined action of iodoform as a cleansing and disinfectant application to wounds renders it a more desirable caustic especially when inserted beneath a temporary filling or for capping the exposed, though not yet decayed pulp. Scheff employs it in the paste of Dr. Paschkis thus:

Iodoform pulv., caolin, āā. 4,00, acid carbol. p. cryst. 0,50; tere cum glycerin. q.s. ut f. pasta spissior, adde ol. menth. pip. æth. gtt. x.—*Deutsch Med. Zeitung.* J.M.F.

CAPACITIES OF LUNGS.—Dr. Nagorsky, having measured the capacities of lungs of 630 boys and 314 girls in the schools of the district of St. Petersburg, now publishes the results of his investigation in a Russian medical paper, the *Surgeon.* He has found that the capacity of lungs, in relation to the weight of the body, is 65 cubic centimeters for each kilogramme of weight in boys, and 57 cubic centimeters for girls. The law of Quetelet being that, with children below fifteen years of age, the weight of the body is proportionate to the square of the height. Dr. Nagorsky has found that it is proportional to 2.15 of the same; while the capacity of lungs is proportional to 2.4 of the height for boys, and Dr. Nagorsky's researches will soon be published as a separate work. As to the relation between the weight of man and the capacity of lungs, it is tolerably permanent, and its variations are mostly due to differences in the amount of fat in the bodies of different men.—*Gaillard's Jour.*

MUSIC AS MEDICINE.—Much has been said upon the power of music to effect most beneficial results upon the afflicted, both in mind and body; and there can be little doubt that a very great deal still remains to be done when the subject shall have been more thoroughly investigated by the medical profession, and certain rules laid down for the treatment of such cases as would be likely to yield to its influences. We have recently heard of a doctor who, finding his patient in a state of confirmed *melancholia*, managed to induce her to try over some of the music for which she had an especial fondness in former years, and thus not only restored her temporarily to comparative cheerfullness, but by prescribing a repetition of this medicine, and seeing that she obeyed his directions, at each of his visits, managed, in an almost incredible short time, to effect a permanent cure. Of course, in this case, and in all others of which we have hitherto heard, the remedy acts indirectly upon the nervous system, and almost unconsciously the patient is relieved. But we now find that the curative process is more directly applied. M. Vigouroux, a French surgeon, it is said, has obtained the mitigation of pain by administering a recurrent series of sound-waves, by means of a tuning fork and sounding board to the affected part. Upon this method E. Bondet has devised an important improvement. A tunning-fork is kept in constant vibrations by means of an electro-magnet, and the undulations are communicated to the skin by means of a rod. Neuralgia is thus removed in a few minutes, and anæsthetic effects are produced by a longer action. We are glad to find that this important matter has now assumed so practical a form, and look forward with much interest to the records of its future development.—*London Muscical Times.*

BISMARCK AS A PATIENT.—The Prince's chief trouble, as is well known, is sciatica, and it is greatly dreaded on account of its obstinacy. Besides this, the Chancellor suffers at times from an inflammatory swelling of the veins in the feet, and, like all other mortals, occasionally from lighter indispositions—colds and indigestion. It seems that the patient is as inconsistent regarding the methods of his treatment as he is in other methods. With the same feeling of "absolute indifference" which according to his own words, he manifests in certain political topics, he also deals with the exigencies of the medical science. Homœopathy or allopathy—it is all one to him, so long as he believes one or the other will cure him. It has even happened that he allowed himself to be treated by an allopathic physician, and soon after by a homœopathist. When at Friedrichruh, he sends for Privy Sanitary Councillor, Dr. Dohn, of Hamburg, who is an allopath. At Varzin, when medical attendance is needed, the physician, also an allopath, in the adjacent town of Schlawe, is applied to. When at Kissengen, the Prince consults the well known Dr. Diruf, also an adherent of the old school. During his stay at Berlin, however, he inclines to homœopathic treatment. —*Medical Register.*

Albumen water is recommended as a good substitute for milk and beef-tea, in cases where these substances disagreed with the patient, or could not be obtained. The preparation is largely used by the French. It is made by dissolving the white of one or more eggs in a pint or two of water, sweetening with glycerine, and flavouring with orange-flower water. It may be taken cold and used *ad libitum*. It is an excellent food in typhoid fever and typhoid dysentary.—*Dublin Jour. of Med. Science*, Sept., 1881.—*Med. News.*

IN the *North American Review* for May, Carl Schurz, treats of "Party Schisms and Future Problems;" Days with Longfellow," by Samuel Ward, contains personal reminiscences of the beloved poet just deceased, extending over a period of forty-five years; Elizabeth Stuart Phelps, in an article entitled, "What does Revelation Reveal?" Lieutenant-Commander Gorringe writes of "The Navy;" W. H. Mallock, the well-known English essayist, in the first series of "Conversations with a Solitary;" finally, Gail Hamilton contributes a paper, "The Spent Bullet," in which science, the pulpit and law are with exquisite wit taken to task for the part they respectively played in the Guiteau-Garfield tragedy.

NEPHRECTOMY.—Thus far 54 operations have given 26 successes—28 failures. The lumbar incision gives better results than that in the linea alba.

THE *Medical and Surgical Reporter* queries: "Should sick men be hung?" Well, only sometimes, but the treatment should not be allowed to degenerate into routine practice.—*Gaillard's Journal.*

Obituary.

JOHN FENLEY, M.D.

The following preamble and resolutions were passed by the Covington and Newport Societies on the death of Dr. John Fenley:

Covington, Ky., April 11th, 1882.

WHEREAS, Dr. John Fenley, late a member of this society, has been removed by death, and whereas, we deem it due to the memory of the deceased to record our testimony to his character as an honorable gentleman and a worthy member of our profession.

Resolved, Therefore, That in the death of Dr. Fenley, this society has lost one of its worthiest members, the community in which he lived a faithful servant and good citizen.

Resolved, That we hereby convey to his bereaved family this testimony of our high estimate of his character and expression of our sincere sympathy and condolence in their bereavement.

Resolved, That these resolutions be recorded among the proceedings of this society and a copy sent to the family of the deceased.

John W. King, M.D.
John T. Wise, M.D. } Committee.
R. Pretlow, M.D.

Craig Fenly, M.D. Sec'y.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of April 10th, 1882.

J. L. CLEVELAND, M.D., *Pres't in Chair.*
W. H. WENNING, M.D., *Secretary.*

REPORTS OF CASES.

Tubercular Peritonitis.

Dr. Whittaker reported the following case: A young man, twenty-four years of age, was first seen by the speaker three weeks ago. He was extremely emaciated, ascitic and œdematous. The swelling began in the abdomen and gradually developed later in the feet. The ascites was so extreme that it gave the lumbar region a glazed appearance and the skin was painful, owing to the tension by the fluid. There was no enlargement of the abdominal veins, no lesion of the heart and nothing abnormal in the urine. In fact, the dropsy came on so insiduously that the patient had been treated six months previously by several physicians for gastro-intestinal catarrh. He was interrogated as to the use of alcohol when he admitted that he drank about one ounce of whisky daily for six months. This led to the suspicion of cirrhosis of the liver, although the diagnosis was doubtful as the effusion did not admit a physical examination. Tapping was proposed but objected to because the patient had been promised a cure by some charlatan. He was then informed that he had not a month to live unless he allowed the fluid to be drawn off, whereupon he consented and a waterbucket full of clear serum was withdrawn. In consequence of the operation the patient was so exhausted that no further examination was deemed advisable. The speaker called next morning and to his great surprise found the abdomen nearly half full, which made examination difficult. It was evident, however, that the liver was not contracted. There was now discovered a tumor about the size of two fists in the right iliac region which could be traced to the umbilicus. In three days the fluid again accumulated, and at the end of a week the size of the abdomen was as great as at first. Another waterbucketful was removed and a thorough examination made immediately. The tumor, a hard round mass, could be distinctly mapped out in the region of the cœcum, and it could be readily traced over to the umbilicus. The speaker then suspected tubercular peritonitis and the lungs were therefore also carefully examined, but no trace of disease was here to be found; there had been only a slight cough which evidently depended on the ascites. There seemed to be a mass pressing on the portal vein and the only chance of relieving this vessel was to cut down in the abdomen to the vein, confessedly a desperate procedure. Dr. Ransohoff was called in consultation, examined the patient but concluded that an operation was unjustifiable on account of the mass of intestine which was probably entangled. The emaciation progressed, the ascitic fluid again accumulated, and the patient died of inanition—two weeks from the time that he was first seen by the speaker.

The chief clinical interest in this case lay in the diagnosis which presented several difficult points. A differentiation had to be made between cirrhosis of the liver and tubercular peritonitis. Before the fluid was withdrawn cirrhosis would be most likely supposed. The absence of fever and tenderness or pain throughout the disease tended to support this diagnosis, whereas the absence of dilatation of the viens or of hemorrhoids spoke against cirrhosis. After the fluid was withdrawn tubercular peritonitis was diagnosticated. A special feature was the non-infection of other organs. The few sub-serous deposits found post mortem in the liver and lungs were only secondary; the structure of the lungs was exceptionally free. There was no deposit whatever at the apices and no pleural adhesions anywhere. The tubercular disease exploded itself solely in the mesentery and peritoneum. It was not a case of tuberculosis with peritonitis as we find so often in phthisis, but simply tubercular peritonitis, a primary not a secondary disease. The darkest point in this case concerns the etiology. We cannot arrive at any other conclusion than that the disease sprang up in the intestinal canal; a closer examination might possibly have revealed a tubercular ulcer somewhere in the intestinal walls. As it is, the case proves, so far as it goes, that tuberculosis is at first a local and afterwards a constitutional disease. The speaker would confess that it was a rather felicitous guess of peritoneal tuberculosis as the exact character of the tumor was not to be determined. He first thought it was an accumulation of fæces in the cœcum but the persistence of the enlargement after free evacuation disproved this fact. He next thought of enlarged mesenteric glands, and called in a surgeon in the hope of lifting from the portal vein a mesenteric mass. He had never seen tuberculous peritonitis without trouble elsewhere. Fever and pain as also tenderness of the abdomen would confirm the suspicion of peritonitis but none of these symptoms were present. Also the character of the fluid, which was not bloody, contributes to make the diagnosis doubtful. Another point likely to excite doubt was the age of the individual, for tubercular peritonitis is generally found confined within the fourth and sixteenth year of age. The rapidity of the course of the case was a support of tuberculosis. The patient was not ill for a year, six months before his death he was engaged in business.

The points of special interest were then: 1st, the swift accumulation of the fluid (within one week); 2, the involvement of the abdominal cavity exclusively; 3, the insidious onset of the disease; 4, the absence of tubercular taint.

Dr. Ransohoff had seen the patient nearly a week before his demise. Physical examination of the abdomen revealed to him a normal condition of the liver so far as its outlines could be detected through the moderate accumulation of ascitic fluid. In the right iliac region he detected a tumor, the size of two fists, which extended over to the umbilicus, was distinctly attached to the posterior abdominal wall, and not very solid to the touch. A rectal examination revealed the same mass extending into the pelvis to the right side of the rectum. This mass was dull to percussion and yielded a certain resiliency to pressure. The speaker believed this mass to be an enlarged mesentery or omentum, probably the seat of extensive tubercular changes, and dissuaded the family from resort to operative measures except tapping.

The post-mortem investigation revealed unexpected conditions. On opening the abdominal cavity about a gallon of yellow fluid escaped. The intestines were looked for but were not to be seen. The interior of the cavity was lined by a slate-colored membrane which presented a smooth velvety appearance. This proved to be the peritoneum which had been the seat of a chronic inflammation. The posterior wall of this cavity was formed by the great omentum which had become adherent to the pelvic fossa and thus imprisoned all the small intestine between it and the posterior abdominal wall. As soon as this was removed from its attachments the small intestines were exposed matted together by old and recent inflammatory bands. The stomach was small and occupied a perpendicular position. The tumor which was supposed to exist in the right side was the enormously distended *caput coli.* Bound down by adhesions the remaining portions of the colon had become contracted while the thickened cœcum had become distended to such a degree as to simulate a tumor. A section of the large intestine presented by the speaker showed the wall to be one-half inch thick with a calibre of about one third of an inch. The bloodvessels of the intestine and peritoneum were all very much dilated and the portal vein itself at the *porta hepatis* was compressed by the great infiltration of the connective tissue by which it is surrounded. The portal vein, as it enters the liver, was presented by the speaker, who believed that this condition alone would account for the rapid development of the ascites. The liver was covered with fibrinous deposits on its inferior surface. Superiorly a number of minute tubercles were detected. The apices of the lungs were free from disease, and neither lung was found adherent. On the surface of both lungs about fifteen miliary scattered tubercles were found.

Fibroid Polypus of the Rectum.

Dr. Ransohoff presented a fibroid tumor of the rectum removed from a male child four years of age. The mother stated that during four or five months the child had suffered from occasional attacks of intestinal hemorrhage attended with more or less protrusion of the bowel. During one of the speaker's visits he fortunately found the little patient at stool. He witnessed the protrusion of the rectum, in the form of a cone, about two inches in length, of dark almost slate color and covered with a glairy mucus. From the apex there was suspended by a narrow pedicle the specimen presented. The pedicle having been tied, the tumor was cut away and found to measure one inch in length by one-half inch in width and thickness. The little tumor was everywhere covered by unaltered mucous membrane, and on section presented the typical appearance of fibroid growths.

This was the second case of this nature that Dr. Ransohoff had recently seen. The first affected a young woman of twenty who had severe intestinal hemorrhages during four weeks unattended by any other symptom. The diagnosis of internal hemorrhoids made by a former medical attendant was not substantiated. An examination revealed a rather firm tumor of the size of a hazelnut attached to the posterior wall of the rectum about two inches above the anus. Although the glass, bivalve and Sims' specula were used, the little tumor could never be brought to view, although it could be felt with great distinctness by the finger introduced into the rectum. The patient objecting to operative interference, an attempt to check the hemorrhages with suppositories of persulphate of iron was made and it succeeded beyond the hopes of the speaker. Two months have elapsed since the last hemorrhage, and there has been no relapse.

Dr. Whittaker observed that it was not uncommon to find prolapse of the rectum in children with dysentery.

Dr. Ransohoff remarked that in his case no bowel troubles had ever been observed.

Aphasia—Cheyne-Stokes Respiration.

Dr. Judkins asked for information in regard to certain phenomena observed in a noted Jewish divine of this city lately deceased. One of these was that he understood words spoken in French and could also respond in that language, whereas he could neither speak nor understand English or German, with both of which he had been perfectly familiar.

The same phenomena had been observed in a physician some time ago who had been stricken by apoplexy when stepping from his bath tub.

Dr. Ransohoff asked what caused the Cheyne-Stokes respiration which was also observed in the first case?

Dr. Whittaker replied to the first question that such assertions must always be taken with allowance; sometimes sounds are uttered which bear a faint resemblance to a certain language. Nevertheless cases are on record where persons have forgotten their natural and yet retained an acquired tongue, though much more frequently the reverse is true. The fact points to a lesion somewhere about the language centre, probably a hemorrhage occurring in the vicinity of this spot. A similar feature is shown by some patients who will use the same words over and over again, the so-called barrel-organism, or by others who will paraphrase when they have forgotten the words expressing a certain idea. Thus, one patient described the moon as that public luminary. These phenomena are closely allied.

The Cheyne-Stokes respiration may be due to various causes. It was formerly supposed to depend on medullary hemorrhage, but since then typical cases of thrombus elsewhere located have been observed with the same phenomenon. The speaker had seen a typical case in opium narcosis. The Cheyne-Stokes respiration, like the conjugated deviation of the eyes, had lost its diagnostic import.

Obstruction of the Bowels.

Dr. Davy reported the following case: He was called to see a lady about eight days ago, who had suffered from obstruction of the bowels for nearly a week. A physician at that time had administered purgatives without any effect. Previous to this the patient was suffering from uterine trouble for about three months, so that she would go about holding her abdomen with her hands. When the speaker first saw her she was suffering excessive pain in the abdomen, principally in the right, but also somewhat in the left iliac region. She had some tympanitis which increased in the next few days. The tongue was dry and red, and slightly coated. The pulse increased from 100 to 120, but has since fallen again; the temperature varies between 99½° and 100°. She complains of great thirst and loss of appetite. A few days ago she had slight alvine discharges and also voided a small quantity of high colored urine. After four or five fecal evacuations the discharges became thick and mucous, resembling the white of eggs, and were very offensive; these grew less and less and have now ceased. Her menses came on, lasted four or five days and then stopped. Two days ago she was worse, suffered great pain in her abdomen for which he applied a large blister and gave one and one-half grains of morphia hypodermically three times a day, this quantity being required to relieve the excessive pain. The blister gave some relief and the pulse, which was up to 120, is not more than 110, nor the temperature above 100°, but otherwise she is worse, and will probably die. There is undoubtedly obstruction of the bowel, but it is difficult to say what its exact nature is, or from what it originated. The physician first in attendance had applied a blister over the right iliac region, which led to the belief that he suspected trouble about the cæcum. There is no doubt about inflammation of the intestine, but no tumor is to be felt. To a question whether the patient had vomited, the speaker replied that she had thrown up some bile but no stercoraceous matter.

Dr. Hottendorf said that he inclined to the opinion that the case was one of typhlitis or perityphlitis. The obstruction and inflammatory symptoms point that way.

An Encysted Bullet Remaining Two Years in the Base of the Skull.

Dr Schwagmeyer related the following interesting case. A girl about 9 or 10 years of age was shot accidently by a little boy two years ago next June. The ball entered the head just above the eye, penetrated both tables of the skull causing an effusion of blood in the orbit so that the eye protruded. It was thought that the child would die. Dr. Ayres was called in consultation by Dr. Fishburn (who also attended the child) and himself, but they all agreed that nothing could be done, and the child was treated as symptoms would arise. Contrary to expectation the swelling in the eye retracted, sight became normal and the child got well in six weeks. The only remnant of the injury was a small ulcer in the inner margin of the eye. This healed occasionally and then the child would complain of headache, which would disappear again when the ulcer reopened. There was a small sinus near the lid but it was not probed. There seemed to be connection with it and the tract of the wound. She was sent to the country where she spent the summer and also last winter. Six weeks ago she complained of pain in the back and occasional slight headache but continued to play every day on the street. Last Monday night convulsions set in with all the symptoms of acute meningitis, from which she died. A postmortem examination showed the brain highly congested, the arteries being almost black and the surface studded with minute abscesses. There was no fracture of the orbit. The brain was examined diligently for the bullet at the base but this was no where to be found. Hope of finding it was almost given up when a minute spot was detected in the sphenoid bone, below the middle lobe of the brain near the sella turcica. This portion of the bone seemed to be elevated and it was only by close examination that the bullet was discovered. It was then carefully chiselled out of the osseous structure in which it had been completely encapsuled.

The speaker could hardly believe that the child died of the injury because the bullet was entirely closed in and there was no tract of inflammation from the seat of injury to other parts of the brain. As the mother died of consumption and the child was always sickly, the speaker suspected tubercular meningitis and hardly regarded the gun shot injury as the cause of death, but looked upon it as entirely independent of the meningitis. The child was said to have run its head accidentally against a wagon about one week ago; he did not know whether that could in any way account for the death of the patient.

Dr. Ransohoff remarked that this case was of unusual interest (1) becouse the inflammatory symptoms appeared so long after the original injury, nearly two years; (2) because the ball was found encapsuled without any fracture and (3) because the abscesses were at so great a distance from the seat of injury. If no relationship between the ball and other post mortem appearances could be established and no evidences of inflammation could be traced from the point of injury, he was slow to believe the gun-shot injury the cause of death.

Dr. Davy remembered a similar case reported by Dr. Waterhouse. A wound into a child's brain was probed to a distance of *four and a half inches;* yet the patient got well, and in two years there was no further trouble; the ball became entirely encysted. He therefore believed that there was no connection between the injury and cause of death in this case.

The State Board of Health of Illinois has decided not to recognize diplomas coming from the College of Physicians and Surgeons, at St, Joseph, Missouri.

Correspondence.

A CASE OF SUBACUTE GLAUCOMA SUCCESSFULLY TREATED WITH ESERINE.

Editors Lancet and Clinic:

Mrs. C. A. M., æt. 60, visited the Eye and Ear Dispensary of Starling Medical College complaining of blindness, attended by pain, from which she had suffered at frequent intervals for several months. On examination, the left eyeball was found to be very hard, the pupil dilated, the aqueous humor muddy and the anterior chamber very shallow. Vision = ability to count fingers at three feet. The cloudiness of the refractive media prevented an ophthalmoscopic examination of the fundus.

A solution of eserine (eserin sulph. gr. i., ad aqua f℥ i.) was directed to be used every two hours in the eye until the following day, at which time the patient returned entirely free from any evidences of the glaucomatous attack. Vision = $\frac{\text{xx}}{40}$. Slight lens opacities observed in both eyes. No cupping of the optic nerve of the right eye discovered. She was directed to suspend the use of the drug and within four months has had no return of the disease.

A case of interstitial keratitis of both eyes. The patient, a young woman under my care in St. Francis Hospital, is the subject of frequent attacks of violent ciliary neuralgia with increased tension of the eye-balls and obscuration of vision. The use of a one grain solution of eserine causes those characteristic glaucomatous symptoms to disappear within an hour after its employment.

Respectfully,
Henry G. Cornwell, M.D.
Columbus, O.

NEW TREATMENT OF PRURITUS.

Editors Lancet and Clinic:

I desire to communicate to the profession through the Lancet and Clinic what I consider a very reliable acquisition in the treatment of that troublesome affection pruritus vulvæ. It may be applied to pruritus ani as well. I have not seen it mentioned anywhere and have therefore reason to consider it original with myself. The remedy is quinia sulphate, rubbed up with only sufficient lard to hold it together. The nearer you get the full strength of the quinia the more efficacious it will prove. Apply freely and thoroughly. It has proven a specific in my hands. Try it. Yours respectfully,

H. K. Steele, M.D.
Denver, Col., April 15, 1882.

Selections.

MEDICINE.

Lectures on Inflammation.—Delivered before the Royal College of Physicians, by J. Burdon Sanderson, M. D., LL. D., F. R. S., Professor of Physiology in University College, London.

Lecture I. Part II.—Injury and Damage.

4. *The local disorders of the circulation, on which the objective signs of inflammation depend—namely, increased supply of blood diminished velocity of the blood-stream, dilatation of the blood-vessels, exudation and stasis—may all be explained either as direct or indirect results of a damaged condition of the vascular wall; but no satisfactory explanation has as yet been given of the mechanism of emigration of the colorless blood-corpuscles.*—In what has been said up to this point, I have endeavored to present a general view of the effects of injury as they may be judged of, without making any effort to investigate them minutely. But we must not forget that these are made of finer details, to see which it is necessary to come nearer and to penetrate below the surface.

Our forefathers judged that inflamed parts were hot by feeling them; we know how hot they are by the thermometer. So as regards the other two Celsian characteristics. We know how a part swells and becomes red, by watching the process under the microscope. Without its aid, our knowledge of inflammation would be as vague as was Harvey's of the capillary circulation. Microscopical investigation has, no doubt the advantage that, the nearer we approach to our object, the narrower becomes our field of vision; and some people imagine that this is apt to associate itself with a corresponding narrowness of intellectual scope. If such a danger exists, the only way to avoid it is not to change our method with our instrument. Whether we look at large things or at small—whether we occupy ourselves with general characters or with details—it is alike necessary to bear in mind that our business is with the pathological process itself, not with its results. The history of pathology, from the time of John Hunter to the present, seems to show that a great many of the mistakes that have been made may be attributed to neglect of this principle. The method which consists in inferring from the pathological anatomy of a disease its essential nature can not be dispensed with; for, in many cases, it is the only method within our reach, but it is an imperfect and uncertain one; for, if we interpret our facts wrongly, we have no means of finding out our mistake. The only way of determining the nature of a diseased process is that which is employed in physiology. It consists in getting as close as we can to the seat of action—in taking care that our view is not obscured by surrounding objects, and of watching what happens with the utmost attention of which we are capable. I need not say that, as regards inflammation, this was the method employed by John Hunter, and, more recently, by the elder Thompson, J. C. B. Williams, Wharton Jones, Lister, and indeed more or less, along with the other method, by all who have worked to good purpose. That in later times, and particularly during the last ten or fifteen years, its relative importance has become so much greater, is due partly to the better appliances which we now possess for this close scrutiny of vital processes, partly to the more sceptical spirit of the time, which refuses to accord to inferences, however well founded, the same value as to direct observations.

As affording an excellent illustration of the method to which I have been referring, as showing how clear a view can be obtained at once of all the constituents of a pathological state or process, I would ask your attention to what may be learnt by the microscopical observation of a serous membrane under conditions which, although they apparently approach closely to the normal, yet depart from it sufficiently to determine inflammation. For this purpose, it is necessary that, during the whole period of observation, the membrane to be observed (the mesentery or omentum of a carnivora or a rodent) should be immersed in a liquid which represents as nearly as possible that of its own normal secretion; and that the temperature of this medium should be that of the body. I shall not describe the details of the experiment, but will content myself with stating that the arrangements are similar to those employed by Professor Stricker (*Handbook for the Physiological Laboratory*, p. 231) and myself in 1870; but that the *modus operandi* has since been brought to much greater perfection by Professor Thoma, of Heidelberg, "(Ueber entzundliche Störungen des Capilarkreislaufes bei Warmblüter," Virchow's *Archiv*, vol. lxxiv). As a result, he has been able to see the mammalian circulation in a state of unimpaired activity; the velocity of the blood-stream in all the blood-vessels being such, that even to the veins the axial blood-stream appears as a continuous red line, with prismatic border perfectly free from corpuscles.

But, in a very short time, the inevitable changes which are the signs of damage present themselves. If the attention be fixed on a vein, the blood-stream in it seems to flag almost suddenly. At once the colorless corpuscles "fall out," like tired soldiers on the march, leave the mid-stream, and loiter against the vein-wall, afterwards sticking to it, just as Dr. Williams described the process for the first time in his Gulstonian Lectures in this College in 1841. We know now that the proximate cause of this loitering of the leucocytes against the internal surface of the vascular wall, is the retardation of the current: first, because, by the well-known experiments of Schklarewsky ("Ueber das Blut und die Supensions flussigkeiten," Pfluger's *Archiv*, vol; i, p. 603), it is shown that, from the relation which exists between the specific gravity of these bodies and that of the blood, this result is certain to happen; and secondly, because, by altering the rate of flow, we can produce or abolish the phenomenon at will.

If this were a mere barren problem in vital physics, or even if I could tell you no more about it now than when, nearly forty years ago, Dr. Williams first described it accurately here, I might hesitate in doing more than to make a passing reference to it.

But we now know that it is most intimately connected with the central phenomenon of inflammation, the exudation from the slowly flowing blood-stream of corpuscular liquid. To show this, let me return to the narrative of what happens in the mammalian mesentery. There are three phenomena which demand our attention. The first is, the emigration of the colorless corpuscles. From the moment when these bodies cling to the walls of the veins, in the peculiar way that has been so long familiar, they begin to escape. How it happened that—to as good observers as any who now occupy themselves with the subject, aided by as good microscopes—this wonderful process remained hidden until both it and its meaning were brought to light by Cohnheim, we do not stop to inquire. To the student of the present day, to whom emigration presents itself as a commonplace and elementary fact in pathology, which is shown to him in the course of his first practical lesson on the subject, it seems incredible that it should have been overlooked; while older men, whose microscopes have perhaps remained under their glass shades for a generation, find it equally incredible that what they or their teachers failed to see thirty or forty years ago, can possibly be true now. Both err, in forgetting how slow and gradual is the process by which we come to a right understanding of objective facts. Let us be prepared to give equal credit to the past and the present, accepting what is new, without loosing sight of, much less rejecting, what is old.

The second of the three phenomena to which I referred just now is that of the accumulation of coagulable liquid on the surface of the inflamed membrane, and the separation of its fibrin; in other words, the inflammatory exudation. In other kinds of inflammation, the exuded liquid is discharged from the veins and capilaries into the intervascular parenchyma, where it accumulates or not, according as the mechanism of absorption is adequate or inadequate for its removal; the most important of the three objective signs of inflammation being the expression of defective drainage, or, what amounts to the same thing, excessive leakage from the blood-vessels. But, in inflammation of a serous membrane, no such drainage is wanted; the liquid exuded accumulates, not in the tissue, but in the serous cavity, and finds its way back to the circulation by the lymphatics (situated chiefly in the diaphragm), with which the peritoneal cavity is in communication. For this reason, the study of peritonitis under the microscope affords an opportunity, not elsewhere to be met with, of studying the nature of exudation, and of its relation to what precedes it. If the part of the membrane which is under observation be surrounded by a ring of glass, which rests upon its upper surface, the exuded liquid, instead of being washed away by the constant stream of warm liquid with which it is irrigated, collects on the surface, and soon forms a gelatinous clot, which adheres feebly to the surface of the membrane. You have, in fact, before you, in its simplest form, a croupous process.

If you remove this coagulum from the membrane and place it under the microscope, it exhibits the characters of blood-plasma which has undergone the same change; nor can there be a moment's doubt that the reason why it coagulates is the same in the two cases—namely, that a certain number of the leucocytes which have escaped undergo disintegration; in doing so, are disolved in the liquid in which they are suspended, and thereby communicate to it the property which it did not before contain—that of producing fibrin.

The third of the three microscopical phenomena which presents itself in the mesentery is that of capilary stagnation or stasis—a phenomenon which the earlier microscopical observers (as, *e.g.* Dr. John Thomson) rightly regarded as of great importance. They were right in so regarding it, for two reasons; first, because it always occurs in inflammations which are of sufficient intensity; and, secondly, because it is in it that the process culminates—by destroying the life of the tissue in which it has its seat.

To avoid confusion, it is necessary to regard the process as consisting of two stages; the first transitory; the second definitive. Transitory stasis is only a local exaggeration of that general retardation of the progressive motion of the blood which we have already studied. Permanent stasis is, as everyone who has watched the circulation in the transparent parts of the frog knows, associated with two other changes in the capillaries. One of these is what has unfortunately been called diapedesis—namely, the often sudden extravasation of a number of colored blood-discs from a capillary; the other is that strange adhesion of the colored discs to each other inside the capillaries, so that they look like rods of red coral, which was carefully studied by Mr. Lister twenty-five years ago. Of the truth of the principal conclusion to which these researches led Mr. Lister—namely, that stasis is not due to alteration of the circulating blood, but to a change in the channels through which it has to pass—there can be no doubt; for, in addition to his own most ingenious experiments, it has been since shown that when, in the living animals, corpuscular liquids, such as milk, are substituted for the blood, stasis occurs in injured parts, in a similar manner and under similar conditions. I shall have again, in my third lecture, to refer to these facts in their historical relations; for there can be no doubt that, as I have had occasion to state before, they led their discoverer to anticipate the advances which have been made since. What I would now desire to emphasize about stasis is not so much the antecedent changes which give rise to it, as its effect on the tissues which surround the obstructed vessels. Stasis is the mechanism by which inflammation kills, and thereby gives occasion to further pathological changes, of which necrosis is the starting-point.

Time does not admit of our studying other examples of inflammation microscopically. I trust that this one instance, in which I have endeavored to give as clear an account of what happens as I could, will suffice to show that, just as to the naked eye the visible effects of injuring a vascular part are heat, redness, and swelling, so these have their microscopical counterparts in vascular dilatation and exudation, and in the escape of the fibrin-forming elements of the blood; and that these culminate in capillary stasis. From it, all the destructive after-effects of inflammation have their point of departure. What I have now to do is to show that all these separate results of injury are—not so much by virtue of their dependence on each other as by their common relation to one and the same proximate cause—like the naked eye phenomena, not disorders of nutrition, but simply signs of damage.

And, first, as regards the retardation of the circulation. As no reason exists why there should be any general retardation of the blood-stream, the condition which determines the local retardation must also be local; and, if so, it must depend on changes of diameter of the blood-vessels, or on increased resistance from other causes in the capillaries. As regards the former, we know by direct observation, first, that there is in inflammation no narrowing either of arteries or of veins; and, secondly, that in *all* inflammations the quantity of blood which flows through an inflamed part is, in the initial stage of the process, vastly increased. It has been proved by exact experiments, that the blood-stream through an inflamed limb may exceed the normal flow in the proportion of something like four to one, (Cohnheim, *Vorlesungen*, vol. i, p. 222). Futher, we know by measurement that capillary veins and capillary arteries of inflamed parts are much wider than natural, and that many channels come into view which were before invisible. From all these facts, it is evident that, so far as concerns the first stage in the process—the stage during which exudation is going on with greatest activity—the diminution of the blood-way.

If we now proceed to ask, why do the blood-vessels widen? We get an answer from physiological experiment, which seems to carry us back to John Hunter. They dilate simply because they have lost a power which they possessed before (I am afraid we must be content to call it a vital power) of resisting dilatation. The loss of a vital power is evidence of damage. A damaged blood-vessel is relaxed, for the same reason that a damaged heart or a damaged intestine is relaxed.

Next we come to exudation and escape of leucocytes. We have already seen how the retardation of the stream, particularly in the veins, is a condition *sine quâ non* of emigration. As regards leakage, we have also seen that, on the large scale, leakage is an immediate result of injury; that, in injured parts, the blood-vessels begin to leak at once—*i. e.*, immediately after the injury; so that the element in the act of exudation which remains unaccounted for is the penetration of the vascular wall by the semi-fluid protoplasm of the leucocyte. Now there are two senses in which a vital phenomenon may be said to be explained or accounted for. The best and most satisfactory is, when we deduce it from the operation of those properties of matter which are operative outside of the organism. From attempting this we are precluded by want of knowledge, or, more accurately, by want of the means of investigation. We have, therefore, to fall back on the less perfect method, which consists in placing the fact along with others which it resembles. In the present instance, we refer to the penetration of the vascular wall of injured parts to the more general fact (of which the examples are very numerous) that leucocytes themselves, and other amœboid bodies which resemble them, possess the power of intruding their own substance into that of dead tissue, and, indeed, of any material capable of imbibition with which they are brought into contact in an active state. The mechanism by which the necessary contact is established has been explained. As to the mode of penetration, we have to content ourselves with identifying it with other well-known but equally unexplained processes.

And, finally, as regards stasis: to understand its relation to the other effects of injury, and to the injury itself, we must bear in mind, first that it does not form part of the inflammatory state, but is rather a sequela or consequence; and, secondly, that the lagging, the stagnation of the blood-stream, and the final choking of the capillaries with blood-discs, occur only here and there in the inflamed area;. and that, when we are able to localize the action of the noxa, we find that stasis, if it occur, is limited to the parts most directly acted upon—*i. e.*, most injured. This localization suggests what on other experimental grounds we know to be the case; viz., first, that stasis is the expression of a higher degree of injury than that which is required to produce the inflammatory state (*i. e.*, redness, heat, and swelling); and, secondly, that the localized retardation of the circulation which leads to it is the result of a change in the capillaries which renders it more difficult for the blood to pass through them than in the normal state. On the subject of this increased resistance, and the conditions which lead to it, a most important series of experiments have been recently made by Professor Glax and Klemensiewicz of Groz, [1] who had profited by the fact that in animals the vital properties of the tissues can be maintained by artificial circulation of properly arterialized blood, for the purpose of ascertaining to what extent the capillary resistance is modified by the introduction into the circulating liquid of extremely small percentages of injurious substances, particularly metallic salts. These experiments prove, not merely that the effect of such injury is to produce leakage, but that it shows itself immediately in diminishing the quantity of blood flowing through the blood-vessels of the injured part in a given time, under absolutely constant pressure. These beautiful experiments, though they fail to tell us why a spoilt capillary resists the passage of blood more than a sound one, afford us most exact information as to the condition which leads to this increased resistance. They justify us in saying that although, in the order of time, stasis is a consequence of exudation, the two phenomena owe their relation to each other to their being both alike the direct effect of injury; the former being the sign of a less, the latter of a greater, degree of damage.

I now desire to submit to you one or two consequences which follow from the view we have taken of the nature of the inflammatory state. The first is, that the only direct after-effect of inflammation is necrosis, that being dependent on the arrest of the circulation; and that the processes of restitution of stucture which have thus ceased to live can not, with any regard to accuracy, be regarded as parts of inflammation, or as in any way different from those by which the same structures are restored when destroyed by other agencies. The determining cause in the one case, as in the other, is the power of renewal inherent in the adjacent undestroyed tissue. The second point is, that the process of inflammation is essentially a terminable process—*i. e.*, one which has no tendency either to spread or last beyond the limits of the proximate cause. To this deduction I attach great importance, because it is the foundation of what I shall have to say in my next lecture as to the ætiology of inflammation. For, if it be accepted as true, it necessarily follows that, if we meet with an inflammation which does *not* cease on the removal of its assigned cause, there must be another latent noxa at work, of which we had before taken no cognizance.

An uncomplicated inflammation is neither reproductive not infective, neither benignant nor malignant. If it have any tendency, it is the tendency to leave off as soon as the occasion for it ceases.—*Brit. Med. Jour.*

PATHOLOGY OF PNEUMONIA.— Pathologists have long been struck with the points of close analogy between croupous pneumonia and acute specific diseases, and especially with the resemblances between its clinical history and that of erysipelas. The dependence of the latter disease on a microscopic organism was demonstrated by V. Recklinghausen and Lukomsky, and has been corroborated by many subsequent observers, especially by Koch. Several investigators have endeavored to find, in cases of acute pneumonia, a similar pathogenic organism. Klebs discovered spherical monads in the contents of the bronchial tubes and in the fluid of the cerebral ventricles; Eberth has described ellipsoidal micrococci in the infiltrated lung and inflamed pleura and pia mater in a case of pneumonia complicated with meningitis; while Koch observed similar organisms in the lungs and kidneys in a case of pneumonia that followed relapsing fever. The most recent investigations on this point have been carried on by Friedlander, of Berlin, who has discovered organisms in every one of eight cases which he has carefully investigated. The search was made in the fibrinous effusion in the bronchial tubes, and in section of the lung tissue and inflamed pleura, hardened in alcohol. The micro-organisms found were almost constantly of similar size and form, ellipsoidal micrococci, a micro-millimetre in length and one-third less in breadth. Spherical organisms were also seen, some apparently really such, others evidently the oval bodies viewed endways. They were uniform in substance, slightly refraction, and colored deeply by the aniline reagents. Their usual arrangement was in pairs, but in some cases they formed long chains, and in the bronchial exudation they were spread out in a film. An aggregation in colonies was seen only in the interior of the lymphatic vessels. Their abundance within the alveoli was remarkable; thousands were counted within a single air-cell in the stage of red hepatization. As a rule they could not be seen within the walls of the alveoli, bronchi, or vessels, but in one case numbers were observed in the lymph-spaces of the interstitial connective tissue, which was œdematous, and in the lymphatic vessels, which presented swelling of the endothelium, within the cells of which the organisms were also seen. This lymphatic infiltration has, Friedlander believes, a special significance. The micrococci in the bronchial exudation may possibly be connected merely with changes in the necrotic material, but this explanation can scarcely hold good of their presence in the fibrinous contents of the alveoli; since the lymphatic changes, in the case alluded to, demonstrate that the micrococci may pass into the current of the circulation, and develop in the living tissues. The changed lymphatics were actually visible to the naked eye as white threads. Although the alteration was found in one case only, this was a typical example of the so-called croupous pneumonia. Moreover, the organisms were found in the tissue of the inflamed pleura in almost every instance; abundantly in the œdematous tissue of old adhesions, and their presence here has the same significance as the lymphatic infiltration. Are these organisms the cause of the pneumonia? To this question, Freidlander observes, anatomical investigation cannot alone give a certain answer. The theory is favored by the above mentioned consideration and the analogy between pneumonia and some other acute infectious diseases. Its frequent occurrence as a result of exposure to cold constitutes, however, a difficulty in accepting this theory of its causation, which is scarcely lessened by an hypothesis advanced by Freidlander, that the organism may undergo certain stages of its development at a low temperature. It would seem more probable that blood changes induced by cold may set up local inflammation, in which the organism finds conditions favorable for its development and that its presence may thus be a secondary, and not a primary, element in the pathology of the disease.—*Lancet*, March 4, 1882.

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[1] Glax and Klemensiewicz, "Beitrage zur Lehre von der Entzundung", *Sitzb. der k. Acad. der Wissedeh*, vol. 84 (iii Abth.), p. 216.

The Treatment of Pneumonia at Bellevue.—The motive of the general treatment of pneumonia at Bellevue Hospital is to sustain the powers and stimulate the functions of the patient till the comparatively brief and self-limited disease shall have spent itself.

The pulse is taken, rather than the temperature, as the gauge which best indicates the capacity for resistance, and an increase in its rapidity and diminution in its force are understood as a call for stimulants. The forms of stimulation used are to some extent subject to differences of opinion on the part of the visiting physicians, but all are agreed as to the value of whisky, and there is almost as much unanimity in their regard for the carbonate of ammonium. Digitalis is much used, but it is objected to by some, partly because experience seems to indicate that in some cases, when the crisis of the disease has passed, patients are left, after its use, in a condition less favorable for recovery, and partly from the theoretical consideration that this drug is not general enough in its action. Camphor has been employed by some as a diffusable stimulant.

The general treatment of pneumonia is, then, by simple stimulation. In special conditions, however, more is done. When the patient is first seen, if he is suffering from considerable pain, a few doses of morphia are recommended. If the disease is seen at its outset, and if the outset is violent in character, one at least of the leading physicians on the visiting staff believes in the good effect of a few doses of aconite, but its use is not general in the hospital. The spirit of mindererus, sweet spirit of nitre, calomel, and Dover's powder, are used by some in the first stage of the disease. Quinine is occasionally called for to bring down the temperature when it rises to a certain height. One of the visiting physicians makes a special point of the importance of watching the kidneys and seeing that they perform their duty well.

The appearance of œdema of the lungs finds all agreed upon the necessity of pushing the stimulants. But beyond this there are some differences of practice. They would be included in the use of dry cups, the hot pack, oxygen, and, in the few cases which are entirely suitable for it, bleeding.—*Med. Record.*

The Antidotes for Strychnine.—Having had occasion to study, experimentally and clinically, the action of strychnine, I was much interested in the notice of the experiments of Messrs. Greville Williams and Waters on the antidotal action of "β lutidine," in the *British Medical Journal* for March 11th. I earnestly hope that further experiments will be carried out, to test the correctness of their theory, in some country in which scientific research is not yet paralysed by the tyranny of ignorance. My immediate object is to invite attention to the value of nitrite of amyl in strychnine-poisoning. This agent is not mentioned in the text-books; but it is probably much more efficacious than any of those which are commonly specified. Antidotes, it must be premised, are of two kinds: 1. The true antidotes; those which destroy the poison by decomposing it, or by annihilating it in essence, or by producing inert combinations. These are the chemical or mechanical antidotes. 2. Those, which, not altering the poison in its essence, counteract its action upon the organism. These are the physiological antidotes. In our endeavors to rescue a patient from the action of a poison, we have three indications: 1. To discharge the poison from the stomach, if it have been introduced by that organ, by the aid of the stomach-pump and emetics; 2. To administer antidotes that destroy or neutralise the poison in the stomach, or in the system; 3. To administer means that will sustain the patient against the action of the poison—in short, keep him alive until the poison is exhausted.

To apply these principles to strychnine, I am unable to judge how far the new organic base β lutidine belongs to the chemical or physiological class of antidotes. Strychnine is, unfortunately, a very stable substance, not easily attacked in its integrity; nor is it easily discharged in substance by vomiting or the stomach-pump. By the time that symptoms of strychnine-poisoning are developed, enough may have entered the circulation to lead to a fatal result, without absorbing more from the stomach. In practice, we shall commonly be reduced to the use of those means which counteract its toxical influence.

There is good evidence to show that strychnine kills by repeated violent shocks, exhausting the nervous centres, especially the respiratory and spinal centres: and that, if these shocks could be moderated or averted, the patient might be kept alive until the danger had passed, by the elimination of the poison. I had the good fortune, in the præ-hysterical epoch of legislation, occasionally to assist Marshall Hall in his experiments *ad hoc*. It is well known now that a frog, poisoned by strychnine, may not exhibit any tetanic symptoms if it be kept absolutely quiescent; but that the same dose will kill it, if, by stimulating the diastaltic functions, as by touching its body, or even by shaking the table upon which the frog rests, tetanic action may be evoked.

The first imperative rule to observe, then, is to avoid every possible cause of physical or emotional disturbance. Agents that have to be administered by the mouth contravene this rule; the attempt to swallow will excite a tetanic fit. Agents that act by inhalation do not contravene this rule. Of all the agents with which I am acquainted, which possess any virtue in stilling the diastaltic function, and in subduing muscular spasm, not one equals the nitrite of amyl. In obstetric practice, we are met by the formidable conditions of morbidly exalted, diastaltic, and spasmodic action; puerperal convulsions; and that irregular action of the uterus called hour-glass contraction. Both these conditions are physiologically allied to tetanus. In my *Obstetric Operations* (third edition), I recommended nitrite of amyl to subdue irregular and excessive action of the uterus. The value of chloroform in counteracting puerperal convulsions is now familiar; but I believe nitrite of amyl is even more valuable. By applying this principle, I have had the satisfaction, as I believe, of saving several lives; and amongst them one or two women who had signed antivivisection petitions. I did not stop to inquire if they were willing to be saved by practice based upon vivisection; but I should hope to be forgiven. The means by which the necessary knowledge was obtained may, in their particular cases, be condoned by the end to which that knowledge was applied.

I have had the rare opportunity of treating a case of strychnine-poisoning. I was called to a gentleman who had inadvertently swallowed a poisonous dose. I saw him within a short time of the accident. He was in the most violent spasms; opisthotonus was so marked that his body was arched back, and respiration was nearly suspended. Pending the fetching of the nitrite of amyl, the fits recurred at short intervals with unabated energy. I obtained the assistance of a young medical friend, who sat by the bed-side, diligently watching, and making the patient inhale nitrite of amyl the moment the premonitory twitchings or facial expression appeared, and always with the effect of averting or greatly moderating the fits; and, to make the evidence complete, when the warning was not seized in time, the fit appeared in nearly its original intensity. This treatment, continued during sixteen hours, resulted in the recovery of the patient. It was impossible to determine with precision the dose taken. We had only the physiological test to satisfy us that he had taken enough to destroy life.

The spasm-subduing virtue of nitrite of amyl has lately been most happily illustrated, in a case *enchatonnement* of the placenta by hour-glass contraction, by Dr. Fancourt Barnes.—Rob't Barnes, M.D.—*British Med. Journal.*

CAN THE LARYNGEAL NERVES AND MUSCLES BE IRRITATED BY THE EXTERNAL APPLICATION OF ELECTRICITY?—Prof. M. J. Rossbach.

This question is of great moment in the therapy of a large number of diseases of the larynx. Its answer in the affirmative saves both the patient and physician from the employment of the disagreeable and difficult endolaryngeal electrization. Its answer in the negative reduces external electrization to purposes less trifling. The investigations, hitherto undertaken by Gerhardt and von Ziemssen, have yielded no satisfactory results. The latter especially inclines in his views towards a denial of the question, while manifest therapeutic success of this method adds support to its affirmation. The result of the very exact experiments of Rossbach is a complete ratification. According to his observations, both the superior and inferior laryngeal nerves may be stimulated by currents proceeding from the exterior, and hence claims, that endolaryngeal application of electricity ought to be rejected. Rossbach, however, grants that, when the current reaches the nerves and muscles it has grown considerably weaker, so that probably both methods of electrization will remain in the field.

The experiments are essentially disturbed by a great number of secondary accompaning effects, which encumber the observation of the results in the larynx. These effects may be summed up as follows:

1. By painful irritation of the skin, reflex disturbances are produced (movements within the larynx, swallowing etc.).
2, The larynx displaced by the action of the external muscles of the neck, which are necessarily irritated.
3. Direct currents fail to strike the parts, for which they are destined.

The latter statement Rossbach has verified upon an individual, who was very tolerant and well adapted to laryngoscopic examination, by observing the effects produced by external electrization, employing both single shocks of a constant current and the faradic current. The effect of the single shocks (which were modified in such a manner that the muscles remained quiet, and the effect upon the larynx alone could be observed), was an inward movement of the vocal cords, and in phonation the pitch of the voice was decidedly higher. If, however, the electrodes are applied to the superior position of the larynx, the position of the vocal cords will not be changed; but the epiglottis, the anterior portion of the false vocal cords aud the aryepiglottidean folds are manifestly disturbed. Rossbach does not state whether he observed any approximation of the thyroid to the coricoid cartilage, which seems probable.

At all events these investigations furnish undeniable evidence to the fact that the laryngeal nerves may be stimulated per cutan, and that, hence; this method of electrization suffices in many cases, especially when we have unlimited time for treatment, although it must oppose Rossbach in his view; viz: that the endolaryngeal method may be entirely replaced by it.—*Deutche Med. Zeit.* G.A.F.

Carbolic Acid in Whooping Cough.—Dr. MacDonald (*Edinburgh Med. Jour.*, 1881, p. 1094) says that on extended trial he finds carbolic acid, in doses of one-fourth of a minim to a child of six months, one-half minim for a year, and one minim for two years and upwards, to be the best remedy for whooping-cough. The whoop goes; the vomiting ceases; the paroxysms are modified in intensity and frequency. This result Dr. MacDonald believes to arise from an action similar to that of creasote on the motor fibres of the vagus to the stomach, and from a lowering of vitality of the specific germ of whooping-cough disease. This points to the antiseptic treatment of the zymotic diseases generally.—*Gaillard's Med. Jour.*

Anthracic Vaccination as a Prophylactic of Splenic Fever.[1]—By L. Pasteur, Membre de l'Institut.

The editor of the *British Medical Journal* has asked me for an expression of opinion on the experiments of vaccination as a prophylactic of splenic fever, performed in Hungary at the request of Baron Kemeny, Minister of Agriculture for that country. These experiments were made by a gentleman belonging to my laboratory, M. Thuillier, whose reports, made to me on his return from Pesth and Kapuvar, are appended. I must here observe that unfortunately, M. Thuillier only had at his disposal animals of which a certain number were affected with various diseases and likely to die during the course of vaccination from the effects of these diseases, without reference to splenic fever. However that may be, I am the first to recognize that the experiments have not been so completely successful as those which were performed in France, and which are now reckoned by dozens. I speak, let it be understood, of the experimental verification of the efficacy of the vaccination by means of final inoculation with highly virulent material. After the return of M. Thuillier to France, I feared that the small difference in the results to which I refer must be attributed to the difference between the race of animals in France and Hungary. Fortunately, my fellow-worker and myself soon discovered that it was not so. Numerous trials made in January and November last clearly showed that the first vaccine employed by M. Thuillier, and which I had myself given to him at the moment of his departure, was, unknown to me, rather weak in reference to a second vacine, intended to complete the vaccination commenced by the first. This explains how it is that the second vaccine caused the death of some sheep after the second vaccination. It can not, however, in any way compromise the success of the new method of vaccination.

At the International Medical Congress held last August in London, I stated that 20,000 sheep had already been vaccinated. The figures at the present moment are, 130,500 sheep, 19,000 oxen, cows, and horses; in all, 150,000 head. In proportion as we approach the months in which deaths from splenic fevers are most considerable, vaccinations increase to an extraordinary extent. I am convinced that from the month of April to the month of September next, the new method of inoculation will have been brought to bear on more than a million of animals without reckoning what is done out of France.

I have noted the article of one of the *privatdocents* of the Faculty of Pesth, who made part of the commission on M. Thuillier's experiments. This gentleman, has, it appears, many preconceived notions on the subject of microphytic diseases. He has thrown himself into all kinds of speculative considerations on imaginary dangers on the subject of the new method of vaccination. I deplore—without, however, feeling any surprise—the foregone conclusions of the *privatdocent.* All scientific novelties are subject to inconsiderate criticism. In the present case, this only troubles me with regard to the injury it may inflict on agriculture and stock raising in Hungary. It would be disastrous if it were to have the result of retarding the application of vaccination for the prophylaxis of splenic fever in a country where such a remedy is so much required.

Report on Anthracic Vaccination at Buda-Pesth, by M. L. Thuiller.—Experiments have been made in the establishment of the Veterinary Institute at Buda-Pesth, under the auspices of Baron de Kemeny, the Hungarian Minister of Agriculture and Industry, and under the superintendence of a commission nominated by his Excellency, and composed of nine members: Dr. Tormay, President, Director of the Veterinary Institute; Dr. Azary, Secretary, Professor of the Institute; Dr. Thanhoffer, Dr. Czako, Dr. Liebermann, Professors of the Institute; Dr. Fodor, Professor of Hygiene to the Faculty of Medicine; Dr. Koranyi, Professor of Therapeutics; Dr. Plosz, Professor of Chemistry; and Dr. Rózsahegyi, Privat-Docent of the Faculty.

Sixty sheep, and ten animals belonging to the bovine genus, were set apart for these experiments. They were divided in the following manner: thirty Hungarian sheep, thirty Merino sheep, three Hungarian oxen, three Hungarian cows, three Hungarian calves, and one young buffalo. These animals were bought at the city market two and three days before the first inoculation. Some of the sheep were more or less weakly animals. They were divided in the following manner;—fifteen Hungarian and fifteen Merino sheep intended to be inoculated; thir teen of each species by recent cultivated material, containing only filaments and no spores; two of each species by less recent cultures brought from Paris, and only containing spores; two cows, one ox, and two calves intended to be vaccinated by recent cultures; fifteen Hungarian and fifteen Merino sheep, two oxen, one cow, one Hungarian calf, and the young buffalo were reserved as test-animals (*temoins*). The whole of the sheep were placed together in a building destined for glandered horses; the cattle were lodged in stables at the Institute.

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[1] M. Pasteur, for reasons explained in his address at the International Medical Congress, employs the terms "vaccination" for anthracic inoculation.

The first vaccinal inoculation was performed at midday on September 23d, 1881. The four sheep were inoculated by spores of a culture dating from August 10th, 1881. All the inoculated animals tolerated the vaccinal fever which followed this inoculation very well. On the morning of October 2d—that is to say, nine days after the inoculation—one of the thirteen sheep inoculated by recent cultures was found dead. The superintending commission made a necropsy, and declared the sheep to have died of catarrhal pneumonia. The second inoculation was performed on October 15th, at midday. The four sheep inoculated on September 23d by spores were again inoculated on that day by a culture of the second vaccine, dating from June 25, 1881, likewise containing spores only. The inoculated animals bore very well the vaccinal fever which resulted from this second dose of virus. On this occasion, also, one of the Merino sheep inoculated by recent culture died. It was found dead on the morning of tbe 8th. In this case, likewise, necropsy showed that death was not a consequence of the inoculation. The superintending committee declared that the sheep had died of catarrh of the stomach. The inoculation of the non-diluted virus took place on October 17th. The superintending committee having expressed a desire to reserve some sheep for ulterior researches, only twenty-five sheep of each lot were inoculated. Each lot comprised thirteen Hungarian and twelve Merino sheep. All the larger animals were inoculated with the virulent material. The two inoculated Hungarian and the Merino sheep which were reserved had been vaccinated by recent cultures.

On the morning of the 19th, fourteen of the test (*temoins*) sheep were found dead; on the 20th, four more had succumbed, and five others died on the succeeding days. Thus, out of the twenty-five test sheep (*temoins*), twenty-three died. The clinical symptoms, the cadaveric lesions, the presence of bacteria in the blood showed the cause of death in all the victims to be anthrax. However, one cachectic sheep which died with symptoms of splenic fever, did not show at the necropsy made by the commission, any of the naked-eye or microscopic characteristics of that disease. On the morning of the 26th, one of the Hungarian sheep vaccinated by recent culture was found dead. The commission made a necropsy and declared the cause of death to be cachexia induced by *distoma hepaticum*. Among the cattle, no fever nor any morbid appearance whatever supervened among those which were vaccinated. In the test series, the temperature rose two or three degrees. There was a little depression, but no want of appetite.

These experiments have fully verified the harmlessness and the efficacy of vaccination. The experiment made on the series of sheep vaccinated by culture of old date brought from Paris in closed tubes showed that the virus may be transported under these conditions for any distance without losing its valuable qualities.

Report on Inoculation at Kapuvar.—The Buda-Pesth experiment was repeated at Kapuvar on one hundred sheep and twenty oxen. Fifty sheep and fourteen oxen were vaccinated: fifty sheep and six oxen were reserved as test animals (*temoins*) of the virulent inoculation. After the second vaccination, six sheep died; after the virulent inoculation, fifty-nine sheep and one test cow (*temoins*) died. The surviving sheep and three out of the five surviving cows were very seriously ill. One vaccinated sheep died, the other sheep and oxen inoculated were not affected. Twenty-six sheep out of a flock ravaged by anthrax were also inoculated. Between the first and second vaccinal inoculation, two of these sheep died, one of the remainder of the flock died. After the second inoculation, ten of the inoculated sheep died; nine have since died. It is not known whether there have been any subsequent deaths from anthrax in the remainder of the non-vaccinated flock.—*British Med. Jour.*

BEEF TEA—LIEBIG'S EXTRACT — EXTRACTUM CARNIS AND URINE.—By Richard Neal, M. D., London.

In the *Lancet*, October, 1880, p. 562, Mr. G. F. Masterman draws attention to the chemical analysis of beef tea, and shows that it is analogous to urine, excepting that it contains less urea and uric acid. Some years ago Mr. Masterman also gave analyses in one of the medical journals, but which of them, I cannot learn from the author himself, showing that beef tea most carefully prepared, does not contain, including alkaline salts, more than from 1.50 to 2.25 p. c. of solid matters, and that such matter is mainly composed of urea, kreatine, kreatinine, isoline, and decomposed hæmatin, exactly the animal constituents of the urine, except that there is but a trace of urea. Many writers have endeavored to impress the public and the profession with the value of beef tea, viz.: that it is not a nutrient but a stimulant, and that it mainly contains excrementitious materials. It appears, however, of little avail, for you constantly meet with those, even in the ranks of the profession, who believe beef tea to be a powerful nutrient, while in most cases among the public, your positive statement that in milk we possess a far cheaper and more powerful blood and flesh making food than in beef tea, is met with a skeptical stare. A short time since a consulting physician wrote in one of our periodicals, how he was not infrequently called to cases where he found the patient literally starving to death in the midst of plenty. Wines and liquors of all choice brands covered the table, with beef tea, jellies and essence of meats in all their endless varieties, some of which the consultant was told, were given every half-hour, and that therefore the the patient had been well kept up. By a speedy clearance of all but the brandy bottle, and with the addition of two or three pennyworth of milk, he had on several occasions, rescued a young and valuable life from certain death. The late Dr. Francis Sibson, in an admirable paper on Bright's disease and its treatment, published in the *British Medical Journal*, February 1877, p. 155, showed how detrimental beef tea may prove in some cases of Bright's disease where the kidneys are already trying to the utmost to throw off metamorphosed structures, and yet the metamorphosed structures of the muscles of the cow are superadded, for these very materials, had the animal lived, would have passed away as urine. Frequently, too, beef tea is advised by practical physicians in diarrhœa, dysentery, and during diarrhœa of typhoid: certainly a large experience of tropical dysentery and diarrhœa has taught the writer to look upon this fluid in the light of poison in such cases. Dr. Lauder Brunton has some very able remarks upon the occasional injurious results of beef tea (*vide Practitioner*, November, 1870, p. 325): "We find only too frequently that both doctors and patients think that the strength is sure to be kept up if a sufficient quantity of beef tea can only be got down; but this observation, I think, raises the question, whether the products of muscular waste, which constitute the chief portion of beef tea or essence, may not under certain circumstances be actually poisonous. For although there can be no doubt beef tea is in many cases a most useful stimulant, one which we find very hard to do without, and which could hardly be replaced by any other, yet sometimes the administration of beef tea, like that of alcoholic stimulant, may be overdone and the patient weakened instead of strengthened." Many other writers, who have from time to time endeavored to impress the profession with the true value that beef tea possesses as a stimulant, but not as a nutritive agent, may be referred to by the "Medical Digest," Section 124 and 125. The non-nutritive, but valuable stimulating powers of beef tea, and its excellence as a vehicle for flesh-making food, such as bread, being fully conceded, it will be interesting to note some facts proving that similar properties have long been known as pertaining to urine. In South America urine is a common vehicle for medicine, and the urine of little boys is spoken highly of a stimulant in malignant small-pox. Among the Chinese and Malays of Batavia urine is very freely used. One of the worst cases of epistaxis ceased after a pint of fresh urine was drank, although it had, for thirty-six hours or more resisted every form of European medicine. This was by no means an unusual result of the use of urine, as I was informed by many of the natives. Hypodermic injections of secale were unknown. As a stimulant and general pick up, I have frequently seen a glass of child's or young girl's urine tossed off with great gusto and apparent benefit. In some parts of our own country the use of urine as a medicinal agent, is not unknown The use of urate of ammonia and guano was noticed by Bauer in 1852, who found their external use of value in phthisis, lepra, morphœa and other obstinate skin diseases. Dr. Hastings' report of the value of the excreta of reptiles in 1862 in the treatment of phthisis, will also be fresh in the recollection of the older members of the profession. Possibly observers may be able to add further to our information regarding the medicinal uses of urine both at home and abroad.—*Practitioner.*

CANTHARIDES.—M. Albert Robin has published the results of a minute examination of the urine in a singular case, which was characterized by paroxysmal attacks of stranguary. The child was suffering from spinal caries, and the cause of the attacks was variously explained by different medical men who were consulted as vesical neuralgia, as the indication of lardaceous degeneration of the kidney, or as due to compression of the spinal cord. The real cause was only discovered by observing the coincidence of the attacks with the application of mild cantharides ointment to keep open sores on the back. The peculiarities noted in the urine were: 1. A diminution in the chlorides during the crisis, and their increase the following day; 2. An increase in the phosphates during the crisis, so considerable that there was a spontaneous deposit of phosphate of lime and of ammoniaco-magnesian phosphate; 3. Before and after the paroxysm there was a remarkable increase in the amount of lime and magnesia eliminated. At the commencement of the crisis, and even before it, there was a high degree of albuminuria, progressively diminishing until the close. During the whole paroxysm the urohæmatin was increased, and indican was present in considerable quantity. The total quantity of the urine was slightly diminished, but less so than in most cases of cantharidism. The urea was considerably increased. No blood-corpuscles or tube-casts accompanied the albumen.—*Lancet*, Feb. 25, 1882.

SUPPURATING CYST OF LIVER CURED BY A SINGLE PUNCTURE.—At the Clinical Society of Paris, in December, M. Rendu reported a case of this kind. M. Quinquand laid stress upon the fact that the temperature in M. Rendu's case was normal before and after the puncture. Now it is a clinical fact, of which he has been convinced by several examples, apyretic purulent collections, whether they occur in the pleura or in the liver, are often cured by one or two punctures. *Apropos* of this M. Quinquand cited an interesting case which he had observed in the Hospital Saint Antoine. A patient had been under treatment for a year for cancer of the stomach characterized by a tumor bulging in the epigastric region, and by various mechanical disturbances, notably uncontrollable vomitings. The clinical characters of cancer, however, were wanting: in the first place, the tumor appeared to occupy the inferior surface of the liver, and the hematic lesions observed were not those of cancer; in fact the patient presented 10 to 12,000 white globules per cubic metre of blood, a proportion usual in the leucocytosis of suppuration. Relying upon these features M. Quinquand made the diagnosis of encysted purulent perihepatic peritonitis; and in fact tapping in the prominent region gave issue to 1,500 or 1,600 grammes of pus. There were no consecutive accidents. The very next day an exceedingly good appetite replaced the anorexia and the vomiting which had brought the patient to a marasmic state, and in eight days there was observed an increment of body weight of 3½ kilogrammes. After the tapping no deformity of the liver was made out, whence the conclusion that the purulent collection was indeed extra-hepatic.

M. Rendu admitted the comparative frequency of cure of extra-hepatic purulent collections after a single puncture, but he was not aware of any case of similar cure of intra-hepatic abscess. It was in this particular that the interest of his case lay.

M. Delens instanced two cases which confirm the therapeutic conclusions of M. Rendu. In a man affected with an inflammatory swelling of the hepatic region regarded by MM. Delens and Duguet as being a suppurating hydatid cyst of the liver, a single puncture made with Potain's aspirator was followed by a cure. More recently M. Delens had praticed two successive tappings of the liver in the case of a lady affected with an hydatid cyst; the first time there was an evacuation of two litres of a fluid as clear as water from the rock; the second puncture gave issue to a purulent fluid. Since the second operation, done fifteen months ago, the fluid has not been reproduced. M. Rendu concludes from these cases, and from his own, that facts of this kind have been already observed, but, so far as he is aware, have not been recorded in medical literature.—*Canadian Jour, of Med. Science.*

Functional Disturbances of Single Cavities of the Heart.—Lukjunow, at the suggestion of Prof. Botkin, of St. Petersburg, has undertaken (*Centralb. für die Med. Wiss.*, 1880, No. 49) a series of experiments on dogs and rabbits, to determine whether the harmonious working of the heart as a whole may be prevented by occlusion or ligature of the coronary arteries, by stoppage of the respiration, or by occlusion of the aorta or pulmonary artery. He summarizes the results as follows: 1. The occlusion of one coronary artery affects first the side supplied by it, then the other side, and primarily influences the auricle. 2. Occlusion by clamping causes changes in the number and character of the contractions; the ligature differs only in producing the effect sooner. 3. Changes in the number and character do not always proceed equally. 4. Inequality in the contractions of the auricles is produced much more easily than of the ventricles. 5. The contractions of the auricles and ventricles may easily be made to be unequal in number; also the two auricles may be readily made to contract at different rates, but it is much more difficult to obtain this result with the ventricles. 6. Between the regular cardiac contractions and the irregular oscillation of muscular fibres, there is an intermediate stage of peristalsis which may run through the heart quite regularly; the heart's muscle is capable of peristalsis and antiperistalsis. 7. While the auricle is contracting regularly, but the ventricle, in consequence of occlusion of a coronary artery, shows only peristalic movements, irritation of the peripheral end of the vagus affects the movements of the auricle, but not those of the ventricle. 8. The secondary frog's thigh contractions, which in a normal heart are manifested by all its cavities, are enfeebled by clamping a coronary artery, chiefly on the side supplied by it; most frequently secondary contractions are not obtained under these circumstances, an explanation of which is not afforded either by alterations in the number and energy of the heart's contractions, or by changes in the frog's thigh. 9. At a certain stage of the clamping of the left coronary artery, the left auricle shows marked congestive phenomena. 10. The alterations produced by occluding a coronary artery may disappear completely on the clamp being removed, with restoration of the heart's function. 11. The conus arteriosus, as regards its function, is in a certain degree independent. 12. Sudden asphyxia affects sometimes most the right heart, sometimes the left; but the phenomena are not the same as those produced by occlusion of the coronaries; amongst other things, there is no decided tendency to peristalsis, and a less rapid influence on the secondary contractions. 13. The influence of coronary occlusion appears to be very probably attributed to two principal factors; first, to the more or less sudden and complete ischæmia; second, to the retention in the heart of the waste products produced by its continued contraction for some time after the occlusion.—*London Med. Record*, Feb., 1882.

The Bacillus of Tuberculosis.—The *Allegemeine Medicinische Central Zeitung* and the *Berliner Klinische Wochenschrift* for April 1st, contain a brief reference to the discovery by Dr. Robert Koch of the bacillus of tuberculosis. This he has succeeded in cultivating through six or eight generations without diminishing its power. The bacillus, as far as has yet been proved, is identical both in men and animals. By inoculation, as well as by injection into the vessels, Koch has succeeded in producing acute miliary tuberculosis as well as cheesy processes in animals otherwise free from tuberculosis. This small bacillus grows very slowly, and is essentially different from all the other pathogenic bacteria and micrococci. The full text of the paper is promised for an early date.

Koch does not usually herald his discoveries until they are pretty well proved. Moreover, his late onslaught upon Grawitz for rushing in unseemly haste to unwarranted conclusions in regard to the inoculation of fungi furnishes an additional guaranty, if such be needed, that he is not likely to choose the present moment himself for abandoning those habits of exact method and care which have, as a rule, characterized his work hitherto. Our readars are likely to hear of this discovery again.—*Boston Med. and Surgical Journal.*

Albuminuria in Health and Disease.—Prof. Senator, in an able mongraph on this subject, brings out many points of interest and value. He states that the albuminoids may be found in the form of peptone in the exudation of pleurisy, pneumonia, and acute rheumatism, as well as in the urine both in health and disease.

It is suggested that its appearance in the urine is owing to a ferment-action analogous to that of the digestive ferments, and it is significant that peptonuria most usually occurs in the "zymotic" diseases. There is also an intermediate product in the changing of albumen into peptone, viz., propeptone or hemi-albumose; and that also is found in the urine, not only in cases of osteomalacia, but also in other cases, of which Dr. Senator has seen seven during the last three or four years. Urine containing propeptone (and not serum-albumin and globulin) remains clear on boiling, but becomes cloudy or gives a precipitate on the addition of acetic acid and potassium ferrocyanide. But there are probably cases of "mixed albuminuria," in which both propeptone and the ordinary albumens (serum-albumen and globulin) occur together. The peculiarity of propeptone or hemi-albumose, that it is not coagulated by heat, is certainly the reason why so little has been known hitherto about propeptonuria. The usual method of testing for albumen (boiling, and then adding nitric or acetic acid) is inadequate for the detection of propeptone, even if the boiled urine be allowed to cool before the acid is added. The best quantative test for albumen (precipitating every albuminoid body except peptone) is to acidulate the urine with acetic acid, and carefully add a concentrated solution of potassium ferrocyanide. The detection of peptone in the urine is not so easy; it may be present when no other form of albumen is found (according to the above tests), and it is said that metaphosphoric acid will throw it down.—*Med. Times and Gaz.*, Feb. 18, 1882.

DISLOCATION OF THE BONES OF THE CRANIUM IN CHILDREN AS A CONSEQUENCE OF ACUTE MENINGITIS.—This lesion has not been as yet noticed by authors who write on infant pathology, although according to Parrot (*Revue de Med.* Feb., 1881), it is by no means rare.

He gives three cases in which this lesion existed and which was only discovered *post mortem* after the calvarium had been stripped of the soft parts which covered it. It consists of a dislocation of the cranial bones, with an effusion between the borders of a sanguinolent fluid The separation is greatest at the coronal and sagittal sutures near the bregma, where the separation may be from three to four millimetres. It shows well on the dried skull.

This dislocation appears because the contents of the skull become suddenly too great for its size, and the force from within overcomes the force which holds the bones together.

As to the cause of the expansile force, we can find it in the enlarged volume of the encephalic mass, and in the development of the cephalo-meningeal lesions. Age plays an important role in the production of this lesion. All the cases mentioned by Parrott, were neither newly born nor were they adult. They belonged to that period of life when we find no membrane between the bones, and where on the other hand, the sutures had not acquired the solidity they do later.

Can cranial dislocation be diagnosticated during life by any particular symptoms? As to that our author can not state positively, nor does he feel justified in offering an opinion.—*Lyon Méd.*, March 12th, 1882.

SPLENIC ABSCESS SUCCESSFULLY TREATED BY PUNCTURE AND DRAINAGE.—At the meeting of the Calcutta Medical Society, January 10, 1882, Dr. Wallace read the notes of this case. Dipo, a Hindoo female, about twenty-two years of age, suffering from loss of appetite, constant lassitude, and marked emaciation; she noticed also that her menses ceased to appear, so that it is now two years since their abeyance. A couple of months before her admission into the hospital, she was troubled with diarrhœa, and occasionally the alvine discharge was largely intermixed with mucus and some blood.

On admission her condition was as follows: Emaciated, anæmic; and feeble looking; pulse small and regular; tongue clean, moist; abdomen somewhat enlarged, left hypochondrium especially; spleen found much increased in size, its margins easily traceable, and reaching to a point an inch to the right of the median line and down to the umbilicus, its lower edge coming as far as the anterior upper spine of the ileum; the organ was tender on pressure, but quite hard. There was no enlargement of the liver, nor could any pain or tenderness be elicited by palpation over any other part of the abdomen; the heart and lungs were healthy.

Subsequent Progress and Treatment;—For a whole month the patient's symptoms, though somewhat relieved, were materially unaltered. On the 23d the fulness and bulging were more decided, and over a circumscribed area of about two inches distinct fluctuation was left, and the presence of fluid diagnosed. A fine exploring trocar was plunged into the swelling, at a point about an inch below the ninth left costal cartilage, giving exit to an ounce of thick, sanguinolent pus. The instrument was withdrawn, and a large-sized trocar was pushed into the abscess cavity, evacuating its contents, which measured quite eight ounces of similar pus. A stream of weak carbolized water was now injected into the cannula, through which, while it was still *in situ*, a caoutchouc drainage-tube was passed into the abscess cavity, being made to retain its position by means of a probe, while the cannula was now removed without disturbing the tube. Boracic ointment and carbolized gauze dressing were applied. The operation was followed by complete relief from pain, the temperature became normal, and for the first two days the discharge of pus was so copious as to thoroughly soak the dressings, and any pressure on the tissues surrounding the drain caused a very free welling up of matter. On the tenth day the dressings were removed entirely, the temperature was again normal, and has remained appreciably so ever since. There is a visible improvement in the patient's general health, for, though she is still weakly and thin, yet she suffers no further pain; has had no pain for ten complete days; her bowels are regular, and the motions quite natural; she sleeps and eats well, and besides looking cheerful, is able to move about the wards very comfortably. The size of the spleen is still above normal, but the contraction it has so rapidly and steadily undergone is remarkable, considering its former dimensions. As the patient's health improves, there is little doubt that her menstrual functions will also be restored.

This case is of interest for its rarity, and perhaps also for its success and rapid recovery. Only a very few cases of simple acute splenic abscess are on record, and, though cases of acute and chronic inflammation of the spleen are constant enough in every one's practice, suppuration is an almost unlooked-for sequel to these changes. It will be observed that there is a history of dysentery in this case, but Dr. Wallace doubts if the casual occurence of such slight dysenteric symptoms which never assumed the chronic form had anything to do with suppuration in the spleen, though the frequent association and dependence of the latter upon the former in chronic dysentary and hepatic abscess is a matter that is accepted without any doubt. Incision and free drainage with antiseptic dressings and absolute rest, constitute seemingly the proper methods of dealing with such a case.—*Indian Med. Gaz.*, Feb. 1, 1882.

EMPLOYMENT OF PERMANGANATE OF POTASH IN BLENORRHAGIA.—We have already noticed the good results obtained by M. M. Spillman and Weiss in the treatment of blenorrhagia by permanganate of potash. These authors base their treatment on the rapidly destructive action of this substance on the microbe which they discover in blenorrhagia. The same means was made the subject of a work by M. Gorgues, analyzed in the *Jour. de Méd. de Paris.* It was at the prison of Saint Lazare that these essays were written.

Most of the cases of blenorrhagia and vaginitis brought to notice have passed the acute stage; chronic discharges running on for months absolutely rebellious to any other mode of treatment, have completely disappeared in twelve or fifteen days. For whoever has been able to follow cases of blenorrhagia in females these results have been truly marvelous. M. Gorgues employed solutions of $\frac{1}{150}$ or $\frac{1}{300}$. The tolerance of it with the female is remarkable. The pain is nothing, or almost nothing. There is never seen, even with the injection of a solution of $\frac{1}{100}$, a discharge tinged with blood, such as takes place just after the employment of caustics. No particular means of using it is to be observed. If the injection penetrates into the bladder, there is no cause for uneasiness. On the contrary, Demarquay has treated with success cases of chronic cystitis in this way. M. Gorgues gives one, sometimes two injections *per diem.* With man the injection of $\frac{1}{350}$ has determined a slight dryness.

C. E. C.

TREATMENT OF SYPHILIS BY HYPODERMIC INJECTION OF PEPTONATE OF MERCURY.—Considerable attention has been drawn to this subject by the investigations of M. Martineau. The subject has been recently further studied by Dr. O. Gourgues, who draws the following conclusions from his results,

1. Peptonate of mercury is an unreliable preparation, is easily decomposed, and often causes considerable local disturbance.

2. The albuminate of mercury, prepared according to the following formula, is easily administered, and is not followed by any local inflammation: ℞. Bichloride of mercury, 1 gramme; distilled water, 20 grammes. Disolve; then add 10 grammes of white of egg disolved in 20 grammes of water; agitate the precipitate, and add 20 grammes of chloride of sodium disolved in 60 grammes of water; agitate and filter, and add enough water to the filtrate to bring the weight up to 130 grammes. This solution contains 1 centigramme of albuminate of mercury in 1.30 grammes of solution; a dose suitable for hypodermic use.

3. Six to eight injections of 1 centigramme of the albuminate of mercury usually rapildy moderates the secondary symptoms of syphilis, and in three cases there was no return of the symptoms in four months.

4, Gastric and buccal disturbances have not been met with; in thirty-six cases there occured no instance of stomatitis, and in only one case, that of a pregnant woman, was there any intestinal action.

5. By means of this method, topical applications are not required for such manifestations as mucous patches, papules, psoriasis, etc.—*Bull. Gén. de Therapeutique*, Jan. 30, 1882.

CLINICAL RESEARCHES AND EXPERIMENTS UPON THE PATHOLOGY OF ERYSIPELAS—(*Lyon Méd.*): D. Dupeyrat bears out the experiments of Dr. Orth, as demonstrating the parasitic nature of erysipelas. The conclusions with which he terminates his thesis are as follows: (1) Erysipelas is due to a living substance strange to the organism, and capable of reproducing itself in the economy. (2) This material or substance is spherical bacterium isolated, or united like beads, but always fixed. (3) This immobility is a characteristic which he believes to be pathognomonic of the bacteria of erysipelas. (4) This bacterium is the only one which seems to be able to produce erysipelas. (5) This germ is incapable of flourishing in all subjects, certain individuals affording a more favorable soil for its development. (6.) A wound is necessary for the penetration of the germ into the economy. (7.) Artificial erysipelas can only be produced in animals by the specific bacteria. (8.) The serum of an erysipelatous bulla, deprived of its bacteria can not produce this exanthem—*Glas. Med. Jour.*

COMEDONES.—The black points, fleshworms, or comedones, which are found in the face, and especially near the nortrils, are not at all produced by the accumulation of particles of dirt or dust, as has generally been believed, but by pigmentary matter which is soluble in acids. It is known, in fact, that black comedones which accompany acne often appear not only on persons exposed to dust or rather careless of their person, but also on chlorotic young girls who live in good circumstances. Besides, observation shows that the discoloration not only exists on the surface of old comedones, but decends always to the lower parts, Accepting this fact, Unna has used successfully acids in the treatment of comedones. He generally prescribes: Kaolin, 4 parts; glycerine, 3 parts; acetic acid, 2 parts, with or without the addition of a small quantity of some ethereal oil. With this pomade he covers the parts affected in the evening, and if need be during the day. After several days all the comedones can be easily expressed, most of them even come out by washing the parts with pumicestone soap. The same results can be obtained by bandaging the parts affected for a long time with vinegar, lemon juice, or diluted hydrochloric acid.

The author concludes by saying that the acids act like cosmetics, as they transform the black color into a brown and yellow shade, and destroy it gradually altogether; they produce a quicker desquamation of the horny bed which interrupts the exit of the comedones and brings to the surface the glandular openings.—*Virchow's Archives.*

For Excessive Sweating.—Dr. T. H. Currie, Lebanon, N. H., says in the *Michigan Medical News*: "For over thirty years I have used the following prescription, without a single failure, in sweats from whatever cause:

Alcohol.................................O J.
Sulphate of quinine..............ʒ J:

Wet a small sponge with it and bathe the body and limbs, a small surface at a time, care being taken not to expose the body to a draught of air in doing it. In one case a neighboring physician was poisoned while dressing a mortified finger. He suffered untold misery, and was drenched with perspiration for a number of days, and his life despaired of. When I saw him I ordered him to be bathed immediately in above solution and that this be repeated once in two hours. The third application stopped all perspiration, and convalescence began at once.

Case of Pseudo-Hermaphroditism.—Reported and a specimen presented by P. Guttmann. Specimen is from a child four months of age, which was admitted to the hospital suffering with intestinal catarrh. Upon examining the genital organs, it was noticed that the urine did not pass through the penis, but found exit through an opening, the size of a pin head, situated in the perineum, immediately above the anus. Although the scrotum was somewhat abnormal in shape, yet the appearance of the external genitalia, could scarcely allow us to doubt the sex of the child. It was, hence, entered into the books as a male child. Succumbing to the disease, we found upon post-mortem examination, that the internal genital organs were those of a female, and together with their appendages were normally developed, the uterus excepted. This organ was tubular in shape, about 4 cm. in length. From its sides the fallopian tubes branched off. The round and broad ligaments were of anatomical size. The uterus terminated in the vagina. The above-mentioned opening above the anus, led to a perfectly normal bladder, and at the same time connected with the vagina, thus constituting the introitus vaginal. The penis like body must not be considered an abnormally developed clitoris, for this idea is disproved by the large size of the glans as also the penis itself, which upon cross section showed *three* corpora cavernosa of perfect normal developement.—*St. Petersburger Med. Woch.* G.A.F.

Treatment of Chlorosis.—Dr. Zander (*Le Progrès Medical*) is opposed to the theory which accounts for chlorosis upon the hypothesis that the food is deficient in iron. He rather supposes that the fault lies not in insufficient quantity of iron in the food, but in insufficient absorption of such iron as is present owing to morbid changes in the secretions of the digestive tract, more especially owing to the absence of a proper proportion of hydrochloric acid in the gastric juice. As a result of this the proteid foods are incompletely digested and nutrition is affected. In the treatment of chlorosis the author therefore prescribes two to four grams of hydrochloric acid diluted with two hundred grams of water, a tablespoonful or two to be taken after each meal. In very obstinate cases pepsin may be mixed with the acid, and the results thus obtained are said to be most satisfactory.—*Lon. Pract.*

Local Application of Iodoform.—The method introduced by Mr. Walter Whitehead of fixing iodoform by means of collodion, has been long pursued by me in the treatment of glandular enlargements in the region of the neck, and I can entirely confirm his experience of its advantages. I have not yet, however, been able to obtain a solution of iodoform in ether in a less proportion than one to eight, and a completely satisfactory one in less than one to ten. It is, however, quite easy to make a clear transparent solution of iodoform in collodion without the addition of ether, by shaking up one part of iodoform with ten parts of collodion, care being taken to add the iodoform to the collodion, and not the collodion to the iodoform. [Lennox Browne, F.R.C.S., Ed.—*Brit. Med. Jour.*

Treatment of Erysipelas by Collodion.—Darlan (Thése de Paris, *Bull. Gén. de Thérap.*, vol. iii, 1881, p. 239) brings forward this treatment again. He says that it prevents the spread of the disease and lowers the temperature. The good effects seem due to its compressive action, which interferes with septic absorption. The affected part, especially if a limb, should be surrounded by a zone of flexible collodion, which should be painted on fresh daily. The usual treatment is to be simultaneously pursued.—*Med. Gaz.*

Phthisis without Cough.—Dr. William H. Thompson (Maryland Med. Journal) recently called attention to the occasional total abstinence of cough in phthisis. The phenomenon is by no means a rare one among the insane. Very often an extensive amount of pulmonary change may occur in the insane without the usual objective symptoms. In a few cases the absence of laryngeal lesion explains this.—*Canada Lancet.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, April 29th, 1882.

Miscellany.

ACADEMY OF MEDICINE.—Dr. Seely will read an essay on "Diseases of the Nervous System as affecting the Eye," next Monday evening.

Members are reminded that the future meetings of the Academy will be held at the new Lancet Hall, Nos. 199 and 201 West Seventh Street, beginning May 1st, 1882.

AMERICAN MEDICAL ASSOCIATION. — The Thirty Third Annual Session will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 6, 7, 8, 9, 1882, commencing on Tuesday, at 11 a.m.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies as are recognized by *representation in their respective State Societies*, and from the Medical Department of the Army and Navy, and the Marine Hospital Service of the United States."

"Each State, County and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of the Association."

Secretaries of medical societies as above designated are earnestly requested to forward, *at once*, lists of their delegates.

Sections.—"The Chairmen of the several Sections shall prepare and read in the general sessions of the Association papers on the advances and discoveries of the past year in the branches of science included in their respective Sections. * * *"—By-Laws, Art. II., Sec. 4.

Practice of Medicine, Materia Medica and Physiology:
Dr. J.A. Octerloney, Louisville, Ky.,Chairman.
Dr. D. J. Roberts, Nashville, Tenn., Secretary.
Obstetrics and Diseases of Women and Children:
Dr. H. O. Marcy, Boston, Mass., Chairman.
Dr. C.V. Mottram, Lawrence, Kas., Secretary.
Surgery and Anatomy:
Dr. —— ———, Chairman.
Dr. W. A. Byrd, Quincy, Ill., Secretary.
State Medicine:
Dr. A. L. Gihon, U.S. Navy, Chairman.
Dr. J. H. Sears, Waco, Texas, Secretary.
Ophthalmology, Otology and Laryngology:
Dr. —— ———, Chairman.
Dr. J. Solis Cohen, Philadelphia, Secretary.
Diseases of Children:
Dr. S. C. Busey, Washington, D.C., Chairman.
Dr. Wm. Lee, Baltimore, Md., Secretary.
Dentistry:
Dr. D. H. Goodwillie, N.Y. City, Chairman.
Dr. T. W. Brophy, Illinois, Secretary.

A member desiring to read a paper before any Section should forward the paper, or its *title* and *length* (not to exceed twenty minutes in reading), to the Chairman of the Committee of Arrangements at least one month before the meeting.—*By-Laws.*

Committee of Arrangements.—Dr. A. J. Stone, St. Paul, Minn., Chairman.

Amendments to the By-Laws:

Offered by Dr. D. H. Goodwillie, Art. II., Sect. 8. Permanent Members: strike out the words "but without the right of voting."

Offered by Dr. J. H. Packard, Regulation II., par. I., to read "as Permanent members or members by application."

Regulation VI., line 4, strike out 5 and insert 10. Second paragraph, lines 4 and 5, strike out all after "publication" to and including "Association," and insert "publication."

Regulation IX. Add new paragraph: "Members by application shall consist of such members of State and county societies, in good standing, as shall make application in writing for admission. They shall simply have the right to receive the Journal on the same terms as other members."

Regulation IV., paragraph 6, strike out all from "see," in line 7, to "and" in line 9.

Regulation V., paragraph 3, after "published" insert "in such manner as the Association may direct." William B. Atkinson, M.D.,
Permanent Secretary.

The St. Paul meeting of the American Medical Society, which convenes June 6th, will probably be presided over by Vice-President Dr. P. O. Hooper, of Little Rock, Ark. President J. J. Woodward has been compelled through ill-health to take a trip to Europe.

Resignation of Professor Samuel D. Gross.—The resignation of a teacher so distinguished, and his retirement from the active duties of instructing the young aspirants for medical degrees, is worthy of more than passing notice. For many years Professor Gross has been cheerfully and universally accorded a preëminent position among the surgeons of America. His reputation has become international, and he is looked upon, wherever our science is recognized and appreciated, as one of the greatest living surgeons, one whose name will remain alive after the body shall have resolved itself into clay; a name that will be treasured and revered for ages to come, as we of to-day are wont to cherish the memories of Æsculapius, Hippocrates, Galen, Vesalius, Hunter, or McDowell.

Truly, Professor Gross is a great man. Great in everything that tends to make a man a *man*. Not only does he excel in his own particular study and pursuit, but also does he stand pre-eminent in all the requisites of a true and *gentle* man.

Born near Easton, Penn., on the 8th of July, 1806, he received a classical education at the Wilkesbarre Academy and the high school at Lawrenceville, N. J. He commenced the study of medicine with Dr. Joseph K. Swift, of Easton, and was subsequently, for two years, a private student under Prof. George McClellan. He graduated from the Jefferson Medical College in 1828, and began the practice in Philadelphia, employing his leisure hours in close study, and in the translation of several standard French and German medical works, which were published. In 1830 he issued his first original work, "Diseases and Injuries of the Bones and Joints," in which particular mention is made of the use of adhesive plaster as a means of extension in the treatment of fractures, now so generally employed by surgeons of this and other countries. During the same year he returned to Easton. In 1833 he became Demonstrator of Anatomy in the Medical College of Ohio, at Cincinnati, and two years later, Professor of Pathological Anatomy in the Medical Department of the Cincinnati College. Here he delivered the first systematic course of lectures on morbid anatomy ever given in the United States, and while thus occupied composed his "Elements of Pathological Anatomy," the first methodical treatise on the subject ever published on this side of the Atlantic or in the English language. After four years he accepted the Chair of Surgery in the University of Louisville. For ten years he labored in this lecture room, and then, in 1850, resigned, to accept a similar professorship in the University of New York, just made vacant by the retirement of the venerable Dr. Mott. At the end of the first session he withdrew, and at the earnest solicitation of his former colleagues, returned to his Louisville chair. In 1856 he was elected Professor of Surgery in the Jefferson Medical College, of Philadelphia, which chair he has continuously occupied until the present time.

Dr. Gross is a very voluminous author; in addition to the works already named, he has, among others, written his "System of Surgery," upon which his posthumous fame will most probably mainly depend; it appeared in 1859, has passed through five editions, the last, issued in 1872, being throughly revised and brought up to the existing state of the science. It was translated into Dutch, and published at Nieuewdiep, in 1863, and is the most elaborate and exhaustive work on "Surgery" ever written by one man. He edited a large work on "American Medical Biography," was one of the founders and chief editors of the *North American Medico-Chirurgical Review*, and is the author of numerous addresses on medicine, surgery and biography, of a "History of the American Medical Literature," and of a "History of the Progress of Surgery during the last Century." He is a member of the American Philosophical Society, of numerous medical societies in the United States, of the Imperial Medical Society of Vienna; of the Medical Society of Christiana, in Norway; Royal Medical and Chirurgical of London; Medico-Chirurgical of Edinburgh; Medical Society of London, and British Medical Association, to which, on two occasions, he was an accredited delegate. He was one of the founders and early presidents of the Kentucky State Medical Society. While in Louisville, he published an elaborate and exhaustive "Report on Kentucky Surgery," in which he first established the fact that the late Dr. Ephraim McDowell, of Danville, in that State, was justly entitled to the honor of being the father of ovariotomy, until then erroneously ascribed to other surgeons.

Shortly after settling in Philadelphia, he founded, in conjunction with Dr. Da Costa, the Philadelphia Pathological Society, of which he was the first president. In 1867 he was elected president of the American Medical Association, and in April, 1870, presided at the teachers' Medical Convention, held in Washington, to consider the subject of medical education. In June, 1870, he was chosen president of the Pennsylvania State Medical Society. In 1872, the University of Oxford, at its one-thousandth commencement, conferred on him the honorary degree of D.C.L.; that of L.L.D. he had previously received from the Jefferson College. He was unanimously elected president of the International Medical Congress which met in Philadelphia, in September, 1876.

Dr. Gross has always been a warm and decided advocate of professional progress and of a higher standard of medical education. Systematic and economical of time, he has, while punctually fulfilling all engagements as professor and practitioner, been enabled to maintain his early habits of earnest study, to keep thoroughly informed in medical and general literature, and to become a voluminous author. Large portions of his works have been composed while riding about the city in his daily professional routine. Such is a brief sketch of the life of this great and good man. It should be familiar to every student and young practitioner of medicine, since it would be impossible to select a better model, or to follow in the footsteps of a more perfect medical life, than that of the venerable professor who has just, to the regret of the universal profession, retired from public life.—*Philadelphia Medical and Surgical Reporter.*

Endowment of Jefferson.—A movement is on foot to secure a permanent endowment fund for the college. The subject was proposed at the Alumni meeting and referred to the Executive Committee. At the Alumni supper one member pledged himself to raise $1,000 before the next meeting of the Association.—*College and Clinical Record.*

Physiological Tests in Criminal Cases.—In a recent article we dealt with physiological tests, tracing their operation in certain historical criminal cases up to a recent date. We now propose to consider the present aspect of the question, and the application of such tests in the recent *cause célèbre* of Lamson.

In the analysis of the viscera, urine, and vomit of Percey John, the scientific experts, Drs. Stevenson and Dupré, having discovered the presence of aconitine in certain quinine powders and pills, which might possibly have been connected with the death of the unfortunate youth, had this task before them—to discover whether any active vegetable substance, notably an alkaloid, and above all aconitine, was present in the viscera, etc., of the deceased; and whether that active substance, if present, was mixed with quinine or other medicament. They did obtain an alkaloid—or, at all events, a substance reacting as an alkaloid—from all the articles clearly connected with the body of the boy; but the quantities of the substance thus extracted appear to have been exceedingly small; so minute, indeed, that a further chemical analysis was, perhaps, barely possible. The presence of quinine and certain other substances having been negatived, the experts were, perhaps, hardly justified in wasting much material in applying chemical tests for aconitine, seeing that the chemical tests for that alkaloid are by no means definite and certain, and that chemists of repute are not agreed as to their value. They therefore relied upon the physiological tests—the test of taste as applied to themselves and others, and the test of lethal effects produced upon small animals, viz.: mice. The taste—under which term is included the whole effects resulting from the application to the tongue—of aconitine is so marked and special, that some persons are inclined to rely upon this test alone as conclusive as to the presence of the alkaloid, and to regard the further test of application to animals so as to result in their death as superfluous. We believe, however, that the experts were right. In our opinion, the lives and suffering of a few mice were not for one moment to be weighed against the issue at task: the life of a fellow-creature; not to speak of other issues. Further, it is known to those having special knowledge of aconitine that the commercial article, even that sold as pure English aconitine, made by Morson and other makers of reputation, is not a pure article in the sense that it contains one active substance only. It is, doubtless, a mixture of alkaloids, representing in the aggregate all the potent active substance of monkshood. Of this we have assured ourselves by actual experiment. It is a well known fact to pharmaceutists that the crystallized specimens of the alkaloid, when tested in the ordinary manner by making them into ointment, and applying this to the skin, do not, as a rule, produce so much local tingling as amorphous specimens; and hence an amorphous alkaloid is most in demand in this country for therapeutical purposes. The crystallized specimens of aconitine are, nevertheless, most deadly in their effects upon animals; and hence lethal effect and benumbing effect do not always go hand in hand. Had, then, the experts in the Lamson case rested satisfied with testing the effects of the alkaloid which they obtained upon themselves, and not experimented upon animals also, their conclusions would have been less convincing than they actually were.

The scientific evidence in the Lamson case exhibited a decided advance on that offered in previous cases where physiological tests were employed. In neither the Palmer case, nor in the case of Pritchard's mother-in-law, was the vegetable alkaloid which caused death detected in the deceased person; whereas, in the Lamson case, aconitine was detected in the viscera, in the vomit, and in the urine. Its detection in this last fluid was all important; and Dr. Stevenson, in giving his evidence, rightly laid stress upon its presence there, as proving not only that aconitine had been administered, but that it had been absorbed; and, further, that a portion of it had been again excreted. In future cases, we may expect the analysis of the urine to form an important factor. Its examination after death in cases of suspected poisoning has hitherto been too often neglected. We understand that both Dr. Stevenson and Dr. Dupré have, in their hospital lectures on toxicology, been accustomed to lay stress upon urinary analyses.

We apprehend that, in the future, physiological experiments upon animals will play an important part in toxicological examinations for the detection of poisons. Where such substances as digitalis and aconitine are to be sought for—bodies possessing no clearly defined and unmistakable reactions, and the reactions of which are destitute of the extreme delicacy which characterizes the color test for strychnine, are to be looked for—physiological experiments are indispensable; and were the profession to be deprived, by the efforts of anti-vivisectors, of this method of investigation, the public safety would undoubtedly be put in jeopardy, and the detection of some of the most subtle and potent poisons would be rendered impossible. This is a danger which ought to be kept clearly in view in any changes which may be made in the law relating to vivisection.—*British Medical Journal.*

POISONING BY PHOSPHORUS BY THE RECTUM.—Landerer relates in the *Archiv der Pharmacie* for the present year a case in which a woman, in order to come into the possession of a large inheritance, poisoned a boy, aged 15, by introducing the ends of phosphorus matches into his rectum. The boy died the same night, with very severe pain and inflammation of the rectum. The murderess committed suicide soon after her apprehension.

TRAINING VERSUS "EDUCATION."—It is hopeless to expect, remarks the *Lancet*, February 25th, that the mental and physical disadvantages accruing to our modern system of "education will be sensibly reduced until it begins to be recognized that education should consist in the development of the faculties rather that the mere acquisition of knowledge. It may appear a paradox, but it is a simple and plain statement of fact, that a man may be well educated, and yet know little or nothing. The best intellectual organism is not that which has been most heavily charged with information, but that which possesses in the highest degree the faculty or power of finding facts at pleasure, and using them logically and with prompt ability. A ready wit, in the true sense of the term, is incomparably better than a loaded brain. Attention is frequently drawn to this matter in our columns, and the lay press does us the honor to quote and amplify our remarks on the subject, but little, if anything, is gained by the ventilation of the idea, because it is opposed to the spirit and feeling of the day. So much the worse for the prevailing sentiment on the subject. Our appeal must now lie to parents and teachers. Miserable cases of mental collapse are constantly falling under notice in which the process of cramming has produced a blighting effect on the brains of the young. Their physical health has been sacrificed in the attempt to make them prodigies of learning. It would be more reasonable to remember that the the brain is not only as much part of the body as is the muscular system, but the organ of the mind is so intimately connected with the centers of vitality, that unless the whole body be fully nourished the brain must quickly lose its strength, and the mind power itself be exhausted in the loss of general health.—*Boston Medical and Surgical Journal.*

THE DETECTION OF SMALL AMOUNTS OF IODOFORM AND SUBSTANCES YIELDING IODOFORM.—On heating an alkaline solution of resorcin with even very small amounts of iodoform a red coloration is produced which again disappears on the addition of an acid. This reaction may be readily employed for the detection of small amounts of substances yielding iodoform, as alcohol, acetone, etc. As is known such substances are recognized by warming the liquid to be examined, adding a solution of iodine in potassium iodide or potassium carbonate, and then sufficient solution of sodium hydrate, drop by drop, until the brownish-yellow color is nearly discharged. On agitation and standing, the iodoform separates as a bright yellow crystalline precipitate, which, under the microscope, appears in the form of regular six-sided tables of roundly-pointed laminæ. As on the one hand small amounts of iodoform remain dissolved, particularly in alcoholic liquids, and on the other hand the microscopic examination of the percipitate is somewhat circumstantial, it is recommended to gently warm the liquid containing iodoform, obtained by the above method, with the further addition of alkali and a little resorcin. The above mentioned characteristics red coloration of the liquid then appears.—*Pharm. Centralhalle.*

DISINFECTION OF URINE.—In the *Medical Annals*, Dr. E. C. Curtis states, hydrate of chloral has the property of disinfecing urine. In August last he received a specimen of urine, four ounces, containing five grains of chloral to the ounce. No special care was taken to facilitate its preservation. It has been simply corked, and has been several times opened. It is now perfectly transparent, of a clear amber odor. A slight semi-flocculent deposit covers the bottom of the vial. The chemical analysis is identical with the notes made when it was present: sp. gr. 1.015, acid, albumen one and a fourth. The preservation of the albumen is a marked test. On microscopic examination, the epithelial cells are as perfect as in recent urine. No casts were noted and none are now seen. The specimen seems to be quite the same as when freshly voided, and is manifestly instructive and of considerable interest. — *Philadelphia Medical and Surgical Reporter.*

BALD TINEA TONSURANS AND VEGETABLE PARASITES. — On several occasions, I have called attention to the occurrence of smooth, bald patches in tinea tonsurans, exactly resembling alopecia areata. I have also mentioned the fact that when, in these cases, one patch becomes quite bald, the others quickly follow suit. A remarkable example of this has lately come under my observation. Two brothers have been under my care for some time past with ordinary well-marked tinea tonsurans, with abundance of the trichophyton. Their parents objected to vigorous treatment, and therefore mild remedies only have been used, which have not at any time produced the slightest soreness. The elder boy had six or seven separate spots of tinea tonsurans, and, during the last fortnight, every one of these spots, great or small, has become perfectly bald, smooth, and shining, with a well-defined margin of healthy hair. What I wish especially to call attention to is, (1) the suddenness of the change, (2) that the bald spots are strictly confined to patches previously affected with tinea tonsurans, not a trace of baldness existing on any other part of the head. In this instance, there is not a stump nor a hair to be found, though, when I previously saw him, the patches were thickly covered with stumps and hairs. In other cases of this kind that I have met with, it has been generally possible to find one or two stumps left either on or at the margin of the patch, by the microscopic examination of which the nature of the case could be determined. When the baldness is as perfect as it is in this instance, we may probably regard it as a spontaneous cure. In the younger boy, the tinea tonsurans has run an ordinary course. It is somewhat difficult to say whether we should regard a case of this kind as one of true alopecia areata following on tinea tonsurans, or as a peculiar and exceptional feature in tinea tonsurans itself. Nor do I think the question of much importance, provided that we remember that infection is not always removed; or, in other words, that the denudation is not in every case so complete as to remove all the stumps affected with the "Trichophyton tonsurans." A want of knowledge of this fact has, in past times, led to two mistakes; the one, that alopecia areata is a "parasitic" disease; and the other, that it is "occasionally contagious."

It has been pointed out by several observers that, in almost all chronic scaly affections of the skin, one can, by a diligent examination of the scales under the microscope, find the spores of a vegetable parasite commonly called *Torula vulgaris*. I can quite confirm this fact from my own observations. I would remark, however, that those who are not aware of it are sometimes misled into the belief that they have discovered a parasitic disease, when, in truth, they have only found *Torula vulgaris*, which is quite harmless, and which is a consequence rather than a cause of the disease. An example of this lately came under my observation in the case of a lady about thirty years of age, who had suffered nearly all her life from a well known chronic folliculitis of the eyebrows and scalp depending on constitutional causes; the skin was scaly, and the hairs fell out before they had arrived at maturity. She was told by two medical men abroad, who had examined the scales and hair under the microscope, that the cause of the disease was a vegetable parasite; the result of the treatment was, however, not satisfactory. When she subsequently came under my notice, it was not very difficult to find here and there *Torula vulgaris* in the scales attached to the hairs, but the hairs themselves were quite free; the mistake was thus easily explained. I have met with several other examples of similar mistakes.

With regard to an affection of the skin which I have described as a form of circinate lichen, and which has been supposed by some observers to be pityriasis versicolor, and, of course, of parasitic origin, I would remark that a very careful series of observations, extending over several years, quite satisfied me that the two diseases are quite distinct. I am prepared to admit that, when pityriasis versicolor becomes a little inflamed, as it sometimes does in those who happen to have a tendency to eczema, it bears a close superficial resemblance in appearance to this variety of lichen circinatus; but the microscopical characters of the two are always quite distinct. As to the name circinate lichen, I lay no stress on it whatever; I adopted it to avoid the introduction of a new name; the disease has, however, since been described under a new name.

I hold that it is now quite out of our power to alter to any considerable extent our nomenclature of skin diseases, however much we may object to some of the terms in use. Many objectionable synonyms will gradually drop out of use; and this is nearly all the improvement we can expect. The most vigorous efforts have been made to get rid of the name typhoid fever; but the word is still as much used as ever. The story of the emperor who failed in an attempt to change a quantity in a Latin word should not be forgotten by the inventors of new names for old diseases. — Robert Liveing, M.D., in *British Medical Journal.*

PETROLEUM AS HAIR OIL.—Mr. Stevens, a British consul, states that a former servant of his, prematurely bald, whose duty it was to trim his lamps, had a habit of wiping his petroleum-besmeared hands in the scanty locks which remained to him; and after three months of lamp-trimming experience and practice of his dirty habit, he found he had a much finer head of black glossy hair than he ever possessed before. Mr. Stevens therefore tried the remedy with wonderful success on two retriever spaniels that had become suddenly bald. During the summer of 1875, his attention was called to several cases of sudden baldness of bullocks, cows, oxen, and the loss of tails and manes among horses. His previous experience induced him to suggest the use of petroleum, and it was found that, while it stayed the spread of the disease among animals in the same sheds and stables, it effected a quick and radical cure on the animals attacked. Mr. Stevens says that the petroleum should be of the most refined qualities, and should be rubbed in vigorously and quickly with the palm of the hand. It should be applied six or seven times in all, at intervals of three days, except in the case of horses' tails and manes, when more applications may be requisite.—*Oil and Drug News.*

INNERVATION OF INVOLUNTARY MUSCLE.—Dr. Wolff, in *Arch. für Mikros. Anat.* (Band xx., Heft iii.), gives the results of his investigations into this subject, his observations having been chiefly made on the tissues of a frog's bladder. As experience taught him that success in preparation depends largely on minutiæ, he gives his method in detail. He injects the bladder of the but recently killed animal, by passing the pipe per anum, with as much of a very weak solution of gold chloride (1:20.000) as that organ will contain without rupture; on the withdrawal of the syringe, should any of the solution return, which is stated to occur but seldom, the thighs of the animal are bound together. The frog is then opened, the bladder freed from its surrounding attachments, and then the entire trunk is severed, so as to leave the bladder attached to but the lower part of abdomen and legs; it is then placed in a gold chloride solution of 1:2000; the inner surface being thus bathed with a very diluted solution, while the external is in contact with a stronger, by which the inner part is but slightly stained, while the epithelium is loosened, and its removal greatly facilitated. After four hours, the bladder is removed, cut open, and fastened to a cork, with the mucous surface outward; it is then subjected to a stream of water, of some force, whereby the already loosened epithelium is washed off; should it adhere in places, it can be removed by careful brushing, without danger of injury to the nerves. The tissue is now placed in a third gold solution of 1:6000 until the next day, when it is washed off and placed in distilled water, slightly acidulated with acetic acid; it is then kept in the dark for some time, afterwards being exposed to ordinary daylight to complete the reduction of the gold. To insure success, great stress is laid upon the necessity of closely following the above method, and especially in having the tissues above absolutely fresh.

The assertions of Arnold, that the transparent medullated nerve fibres communicate with the nuclei of the muscle cells is denied, it being stated that, in successful preparations by the foregoing method, all the medullated nerves, which, however, are present in no great number, may be traced to their endings, and that they neither communicate with the muscle cells, nor pass into non-medullated nerve fibres. After much laborious investigation, Dr. Wolff is satisfied that involuntary muscle is innervated by the *sympathetic* nerves, of which numbers accompany the medullated cerebro-spinal branches.

On these sympathetic bundles, in connection with them, lie numerous sympathetic ganglion cells, which latter are usually aggregated in masses. These nerves and ganglion cells possess no special distinguishing features. The former have richly nucleated, thick sheaths, closely investing the axis-cylinder; the latter have each a capsule, and, when aggregated, are enveloped in a connective-tissue stroma. Each ganglion cell is ordinarily possessed of two processes, one of which passes into the larger sympathetic branches, the other to innervate the the muscle cells; to the first he gives the name of *centripetal* fibres, to the second that of *centrifugal.* In addition to this—the more usual arrangement—there are cells having numerous innervating fibres passing to the muscle; also those that rest directly upon the muscle by a broad base; and, finally, unipolar cells, which, after some interesting considerations regarding nerves and ganglion cells in general, are decided to be true centres of innervation.

The fibres of innervation, after leaving the ganglion cells, form a broad bundle of sympathetic fibres, which accompany the muscular trabecula, and, after some distance, give off to the muscle cells, one after the other, delicate fibrilla, so that the bundle gradually diminishes in size, and finally disappears.

Our author states that he applies the term "sympathetic" solely to those fibres corresponding to the gray fibres of Remak, characterized by the richly nucleated sheath, and by the failure of medulla, and that he does not include in this class the medullated nerves sometimes found enclosed in the sympathetic bundles, as these sooner or later separate from the latter, which are used simply as means of conveyance.

As an aid to the differential diagnosis between the sympathetic and cerebro-spinal fibres it is asserted that the former, by gold solution, are colored light red, while the latter, viewed without the medulla, appears of a dark red; that the former, by osmic acid, are stained a light slate gray, the latter, again seen without the medulla, remaining perfectly uncolored.

As the result of external observations, he denies that medullated fibres ever pass into sympathetic, and, further, that medullated fibres never become non-medullated nerves.—*Western Med. Reporter.*

M. PASTEUR'S DISCOVERIES.—An application to man of M. Pasteur's researches on the preservation of animals from malignant pustule has been reported by M. Casson, in a note read at a meeting of the Académie des Sciences. He described the case of a farmer who had been twice attacked by charbon. The first attack was slight; the second was very serious, and expected to be fatal. However, the dangerous symptoms speedily disappeared, leaving two deep ulcers on the back of the hand. M. Casson considers that the rapid improvement indicates an actual vaccination resulting from the first attack of charbon, and suggests that the case confirms the facts established by M. Pasteur's researches on the preservation of animals by the inoculation of attenuated virus.—*British Medical Journal.*

DEATH FROM NERVE-STRETCHING. — Socin, Langenbeck, Billroth, Weiss, Berger, and Benedict have each killed his man through nerve-stretching in locomotor ataxia. Violence had been done the spinal cord in these cases, as was evidenced by vomiting, singultus, and paralysis of the bladder. Billroth has abandoned the operation, and Althaus considers it an unsafe measure.—*Gaillard's Journal.*

M. SCHLAGDENHAUFFEN, of Nancy, has studied the seed of an African plant known by the name of la pola. Its cotyledons contains caffeine and tanin. The Arabs use it to improve impure water. M. Schlagdenhauffen, in a note from him read at a meeting of the Académie des Sciences, stated that he considers la pola may rank in utility with tea and coffee. — *British Medical Journal.*

TREATMENT OF OBSTINATE EPISTAXIS. — A combination of subacetate of lead (twelve parts) and opium (one part), of which two grains (thirteen centigrammes) may be given in a pill every two hours, has been successfully used by Dr. Roth.—*Memorabilien,* Heft 5, 1881.

THE Illinois State Medical Society will hold its annual meeting on the third Tuesday in May at Quincy.

THE *British Medical Journal* reports an ear of corn discharged through the chest. The assailant must have used a cannon, or at least, a pistol with an abnormally large meatus. But the "friend at our elbow" suggests that our British cousins (or grandparents) say corn when they intend *wheat;* and that the patient fired his own charge, after having thus loaded himself to the muzzle.

Original Communications.

CURRENT HISTORY OF THE CINCINNATI ACADEMY OF MEDICINE.

Being the Address of the Retiring President,
DR. THAD. A. REAMY.

Delivered before the Academy of Medicine, Mar. 13, 1882.

Gentlemen:—It does not seem possible that twelve months have passed since I stood in this place and thanked you for the high honor conferred in electing me your president. And yet the year has gone, and the hour come, when it is my duty to surrender the trust of this office to the skillful physician and accomplished gentleman, whose earnest work in the interest of the Academy so richly entitles him to the distinction of presiding over its deliberations during the coming year.

And now let me most sincerely thank you for the great kindness with which you have borne with me and my shortcomings, the unexceptional courtesy and friendship which you have constantly manifested, the cordial support with which you have strengthened my administration, and the zeal with which you have prosecuted the work of the year.

In this connection, I beg to lay before you a brief summary of the work done, also some statistical matter, as to membership, new members elected, resignations, deaths, etc., etc. This material has, at my solicitation, been kindly furnished me by Dr. Wenning, to whose great efficiency as recording secretary much of the success of the Academy during the past year is due.

Total number of active members March 7, 1881, was 98. Died during the year, 4. Dropped, 2. Resigned, 2. Left the city, 2. Loss of members from all causes, 10. New members elected, 16. Present membership, 104. Net gain, 6.

OBITUARY RECORD.

Name.	*Membership.*	*Date of Death.*	*Residence.*
D. E. Wade,	Active	Mar. 10, '81	Cin.
J. F. White,	Original	Mar. 7, '81	Cin.
R. R. McIlvaine,	“	July 29, '81	N. Y.
F. Roelker,	Honorary	Sept. 1, 81	Cin.
S. A. Amery,	Active		Cin.
W. W. Henderson,	“	Sept., '81	Cov. Ky.
W. T. Brown,	“	Jan.. '82	Cin.
Total......7			

WORK DONE.

The following papers and reports were read during the year:

DATE.	SUBJECT.	TITLE.	AUTHOR.	REMARKS.
1881.				
Mar. 7	Case Report	Cephalhæmatoma	J. L. Cleveland	Spe'men presented
“ 14	“ “	Fracture of skull	E. G. Zinke	
“ 21	Essay	Modus operandi of cod liver oil	S. Nickles	
“ 21	Case Report	Epilepsy from oil of tansy	E. G. Zinke	
“ 21		Roncegno water	A. Ravogli	
“ 28	Essay (case)	Tubercular meningitis	E. G. Zinke	
“ 28	Case Report	Invagination of intestine	R. W. Thornton	Spe'men presented
“ 28	“ “	Cirrhosis of liver	J. Ransohoff	
Apr. 4	“ “	Incontinence of urine	W. W. Seely	
“ 4	“ “	Laceration of cervix uteri	Thad. A. Reamy	
“ 11	Essay	Local treatment of diphtheria	J. T. Whittaker	
“ 18	Case Report	Cerebro-spinal meningitis	J. L. Cleveland	
“ 25	Essay (lecture)	Atrophy of muscles	P. S. Conner	
“ 25	Case Report	Erysipelas following vaccination	J. T. Whittaker	
May 2	“ “	Epithelioma of sigmoid flexure	J. L. Cleveland	
“ 9	Essay	Syphilization	R. A. Vance	
“ 9	Case Report	Lupus erythematodes	Jos. Ransohoff	Patient presented
“ 9	Instrument	Plaster bandage filler	Wm. Judkins	Instrument shown
“ 16	Case Report	Vesical calculus	P. S. Conner	Spe'men presented
“ 16	“ “	Necrosis of lower jaw	“ “	“ “
“ 16	“ “	Amputation of finger from sand blast	“ “	“ “
“ 16	“ “	Sarcoma of back	“ “	“ “
“ 16	“ “	Cysto-sarcoma of testis	“ “	“ “
“ 16	“ “	Typhlitis	J. L. Cilley	
“ 23	Discussion	Syphilization	R. A. Vance	
“ 30	Case Report	Double hæmatoma	J. H. Tate	Specimen shown
“ 30	“ “	Cancrum oris	J. L. Cleveland	
June 6	Essay	Hypertrophy of cutis	A. Ravogli	
“ 13	Case Report	Chronic gastritis (carcinoma)	J. T. Whittaker	
“ 13	“ “	Syphiloma of nervous symtem	R. A. Vance	
“ 20	“ “	Cystic tumor of omentum	Thad. A. Reamy	Spe'men presented
“ 27	“ “	Fibrous tumor womb	R. B. Davy	
“ 25	“ “	Intra-ocular tumor	R. A. Vance	
Sept 7	Essay	Adulteration of sugar	J. G. Hyndman	
“ 12	Case Report	Temp. in typhoid fever	F. Forchheimer	

DATE.	SUBJECT.	TITLE.	AUTHOR.	REMARKS.
Sep. 12	Case Report	Meningitis in typhoid fever	Clara Ellsbury	
“ 19	“ “	Syphilitic abortion	C. O. Wright	
“ 26	“ “	Treatment of tape worm	A. G. Drury	
Oct. 3	(No	meeting)		
“ 10	Essay	Impotence	R. A. Vance	
“ 17	Essay (case)	Tuberculosis of testes	J. Ransohoff	
“ 24	Case Report	Tinea versicolor	Julia Carpenter	
“ 24	“ “	Lardaceous viscera in children with Otitis media	R. A. Vance	
“ 31	Essay (case)	Coryza in infants	F. Forchheimer	
“ 31	Case Report	Reduction of inverted uterus	Thad. A. Reamy	
Nov 7	“ “	Ovarian tumor	G. L. Mathes	Spe'men presented
“ 14	Essay	Intestinal obstruction	J. L. Cleveland	
“ 21	Case Report	Acute myelitis	“ “	
“ 21	“ “	Erysipelas of glottis	Jos. Ransohoff	
“ 28	Essay	Hydrotherapy	J. T. Whittaker	
Dec. 5	Case Report	Gunshot wound of shoulder joint	Jos. Ransohoff	Specimen shown
“ 12	Lecture	Support to perineum	Thad. A. Reamy	Illustrated
“ 19	Case Report	Syphilitic hemiplegia	E. G. Zinke	Specimen shown
“ 19	“ “	Hot water in scrotal hernia	J. P. Hottendorf	
1882.				
Jan. 9	Essay (cases)	Veratrum viride in typhoid fever	J. C. McMechan	
“ 16	Case Report	Complication in vaccination	A. G. Drury	
“ 23	Essay	The skin an organ of touch	A. Ravogli	
“ 30	Case Report	Chancres of both lips	Jos. Ransohoff	Patient shown
“ 30	“ “	Laryngeal diphtheria	J. L. Cleveland	
Feb. 6	Essay	Gun shot wounds of joints	P. S. Conner	
“ 13	Case Report	Paralysis of vocal cords	B. Tauber	
“ 13	“ “	Meningitis in small pox	A. G. Drury	
“ 13	“ “	Cancer of the tongue	Jos. Ransohoff	
“ 20	Essay	Aspiration of knee	Wm. Judkins	

It will be seen that 43 cases were reported, and 13 pathological specimens presented, 16 essays read, including three lectures. The majority of the essays were founded on cases of clinical experience making the work practical. There were 63 subjects presented for discussion. There was a long summer vacation, excluding this and the Christmas holidays, but one meeting during the year failed to present regular proceedings. The energy and industry of the gentlemen composing the Committee on Essays, explains this feature of our successful year.

It is but 11 years since I became a citizen of this city, enjoying the honor of membership in the Academy only for the same brief period, but I have been conversant with its work through its published papers and discussions, since its organization in 1857; and, I do not hesitate to say that never in its history, was it more vigorous and prosperous than to-day. Never were its discussions more instructive. If I am not mistaken its membership was never so large as now. The friends of the Academy are especially to be congratulated when it is remembered that within the past few years quite a vigorous colonial medical society has gone out from its ranks, embracing many prominent members of the profession; yet in no way impairing the strength of the parent society. Indeed, quite a number of gentlemen find it congenial and profitable to belong to both societies. The Cincinnati Obstetrical Society, whose constitutional limits as to membership are almost filled—a society which is doing some very good work—was also organized within this Academy. Its most active working members, are likewise active here. The hardest workers generally have most leisure.

Our Plans.—Improvements could of course be made; and in no direction in my judgment would a change be so profitable as in devising means by which our proceedings could be fully reported, and an annual volume of transactions containing all important papers and discussions published. In no way interfering with weekly publication of proceedings in the LANCET AND CLINIC. Such a course is perfectly practical. The publication could be made almost, if not quite self-sustaining; so nearly so that the deficiency would cheerfully be met by special contributions. Such a plan would stimulate the production of a larger number of essays, more carefully and elaborately prepared, and more thorough reports of the cases presented. It would also improve the character of the discussions. The annual dues ought to be advanced from two to five dollars.

The Academy is out of debt, but this is not enough, There are no good reasons why it should not own a suitable house in which to hold its meetings, and possess a library with well appointed reading rooms. Under such auspices the nucleus of a library being formed it would soon grow to gratifying proportions by subscriptions, donations and otherwise.

In numbers, energy, professional power and influence, the Academy is equal to the task of carrying out these measures or any others it may see fit. Organization for the work is all that is required.

Referring to the contributions made to this society during the year now closed, some may be ready to ask: "What good has been accomplished? What original discoveries made? What new theories have been advanced for our amusement or edification? What light has been thrown upon the field to better guide us in studying the problems of disease? What new remedy has been presented, and its therapeutic or healing power disclosed? Finally, what fallacy or false doctrine has been exposed and overturned, what truth established? I pause not to answer these questions specifically in detail. In the presence of this audience it were useless. It is difficult to estimate the amount of good done by a society of this kind. There is nothing that so profits the practitioner, be he young or old, as bringing his cases, such as may be striking, and his methods of treatment, and subjecting them to the crucible of discussion by his confreres. Who among us has not seen his idol broken and in fragments at his feet? Who has not come into this hall with a theory, which, to himself seemed so plausible that he had come to accept it as not a theory, but a fact—blinded until his eyes were opened—only to see his facts dissolve in the crucible of counter experience; his arguments, which he had offered in support, and which he had regarded as unanswerable, proven even to himself to be sophistry when subjected to the logic of some friend in debate. Thus we have our errors corrected and are guided to the truth. The old learn from the young, the young from the old. Each thus brings his treasure into the common storehouse; medical science is advanced, the good of mankind promoted.

The ocean with its immeasurable depths is made up of drops of water, the unlimited expanse of its shores, of grains of sand; so the sum of all knowledge is made up of the little that each honest toiler can bring.

In conclusion, let me say a word as to our honored dead. The roll seems a long one when we consider the entire number of our membership. Let it remind us of our mortality. I need not detain you with details as to the life and character of those who have died. With few exceptions they were known to most of you, perhaps, better than to myself. Moreover, in almost if not in each case, short memoirs were furnished, suitable eulogies pronounced, and appropriate resolutions passed, and placed upon our records at the time of decease. In brief, I may say, each did his work well according as he had opportunity and talents. And may we not fondly hope that when the labors of this life were over, each of them entered beyond the river, upon a realm far brighter, a peace immortal, a rest eternal? Their faults let us forget, their good deeds and their virtues let us cherish and emulate.

American Origin of Syphilis.—Dr. Rollet, of Lyon, France, has revived the old theory of American origin of this disease, and claims that the disease was not known to Europeans before Columbus discovered this continent. Skulls of Egyptian mummies, however, show the ravages of this poison, and it is probable that it was as common and more virulent in earlier days than now.—*Lyon Méd.—Chicago Med. Review.*

INAUGURAL REMARKS

Delivered before the Cincinnati Academy of Medicine
March 13th, 1882.

By Dr. John L. Cleveland, President elect.

Gentlemen of the Academy of Medicine:—I thank you for this expression of confidence in selecting me to fill this honorable position. I have not sought this office, and I am well aware that there are many men among us who would fill it better than I; and I would be better satisfied myself if some one else occupied this chair to-night; but coming to me as it has, I esteem it an honor. I therefore accept the trust, and shall discharge my duties to the best of my ability. But following as I do the able and distinguished gentleman who has honored us by presiding over our meeting during the past year, I am aware that I appear before you at a very great disadvantage. While the above is true I am encouraged by this fact. I am among my friends, and that I will not be subjected to unkind criticism, I wish to frankly inform the Society of a part, that they are certain to find out, viz., that I am not versed in the government of parliamentary bodies. So you need not be surprised if at times I render decisions and assume privileges that would astound a student of Cushing's manual. But I assure you, gentlemen, that I shall not intentionally wrong anyone. If I should do so I hope some of my friends will correct me and set me straight, and I will take it as a favor.

I do not think, gentlemen, that we can well over-estimate the advantages that *may* acrue to us from our weekly meetings. For years past I have looked upon this Academy as my principal school. Only a short time ago one of our ablest and most faithful members remarked to me, that he never went to the Academy of Medicine without learning something that he could use for the benefit of his patients. It is the tendency of human nature to act and think in grooves, and the more isolated we are, the deeper these grooves become. Hence the necessity for societies. We wish, as far as possible, to view the whole field of truth. We as individuals can only cultivate a little spot ourselves; we cannot, unassisted, look over the entire field of our subject; our horizon is too limited. Let us do all we can to assist others by giving freely to each other of our knowledge and experience. This free interchange of thought, experience and facts will not impoverish us, but it will make us stronger men and better practitioners. By this freedom of discussion and investigation many of our darling theories will be punctured, and the light made to shine through them. Often we will find out what we considered an established fact based upon our observation is no fact at all, we will learn to be more respectful of the opinions of others, more modest in regard to our own, and at the same time, through this change and interchange, more confident in the fertility of our own resources.

And now, members of the Academy of Medicine, upon you rest the responsibility of maintaining, during the coming year, the good reputation that this Society has made for itself. If we were faithful to our trust and our privileges, we must not be ashamed to look back upon the year's work.

Correspondence.

ARTESIAN WELLS AT LONGVIEW.

Editors Lancet and Clinic:

The Superintendent of Longview, Dr. Miller, has proposed to the County authorities to bore wells for the supply of both mineral and pure water. There is no doubt of the practicability of this matter—the value of such a supply to such an institution could scarcely be overestimated.

In the last few years some of our manufacturers in quest of water have discovered the very important geological fact that there is underflowing this region at a depth of about one thousand feet a vast current of saline water. The Brewer Moerlein struck it at twelve hundred feet, the water, in addition to being utilized about the brewery, is used for medicinal purposes, for bathing and drinking. Mr. Rabe, a distiller in Cumminsville, reached the deposit at eight hundred feet, and at Gaff's distillery an immense stream flows from the pipes into Millcreek. The Gas Company have sunk two wells, one near the great tank on Front street, where the water is employed to cool the coke; the other in the eastern part of the city in or near the grounds of the old Sportsman's Hall. The same subterranean current has been tapped on both banks of the Licking, back of Covington and Newport. From one of these wells 100,000 gallons flow in twenty-four hours.

Dr. Miller expects to bring to the surface three varieties of water; at one hundred feet, limestone water; at from ten to fifteen hundred feet, saline water similar to Blue Lick or Big Bone Springs; then reducing the size of the boring, at the depth of 2,500 feet, the Pottsdam freestone penetrated, will yield an absolutely pure crystal fluid.

Think of it, a mineral spring of great value in the beautiful lawn at Longview projected to it may be in a fountain burst one hundred feet! By the side of this the pure soft water of freestone, only second in medicinal value to the saline, and thrown too into jets by the force from below. The above are so important in a medicinal and æsthetic aspect that the utility of the limestone well sinks into comparative insignificance. I have neither the time nor disposition to discuss the therapy of Blue Lick water, it is fixed in the confidence of the public firmly, it can be bought on draught from Maine to Louisiana, from the Atlantic to the Pacific; at many places in Europe it can also be had, ranking with the established waters of the Continent.

Cincinnati, O., May 1st, 1882. W.W.D.

3d and Broadway.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of April 17th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

REPORTS OF CASES.

Acute Tonsillitis.—Tonsillotomy.

Dr. Thrasher reported the following case: A young married lady, twenty-three years of age, lately had an acute attack of tonsillitis. She had been frequently troubled in this way, the inflammation coming on at intervals of two or three attacks a year. Her tonsils were both hypertrophied, red and inflamed, the right more than the left, however, so that it touched the velum palati. The patient had great difficulty in opening the mouth, so that the husband thought she had the lock-jaw. She was unable to eat and could swallow fluids with difficulty. This condition had lasted four days when suppuration occurred. A deep, free incision was made with a bistoury, one-half inch in extent towards the centre; about half an ounce of blood and pus followed, which gave immediate relief, the inflammation subsided and the patient was then treated with tonics. Although the swelling had subsided the tonsil still projected over the median line and interfered materially with speech. She was then treated on alternate days for two weeks with a topical application of a ten grain solution of nitrate of silver and afterwards tincture of iodine. The result, however, was *nil*. Excision, which had been already previously recommended but objected to, was now permitted and a portion of each tonsil removed which was followed by a small loss of blood. Speech was facilitated immediately, the tonsils contracted rapidly and in about two weeks had shrunken considerably, although there is still some hypertrophy of both tonsils remaining.

DISCUSSION.

Dr. Whittaker remarked that tonsillitis was one of the commonest affections we have to treat although the case just reported was unusually severe from the general infiltration about the tonsils. It was rather singular that so early an incision should be followed by pus; generally there is only a small quantity of blood, and even after an incision the symptoms are the same as before. Evacuation does not often give relief, unless the disease has reached its height. Acute tonsillitis is an infectious disease, in some cases being mild, in others severe; it will run its course and the inflammation cannot be aborted by any possible means. The speaker did not practice incision but relied on internal treatment alone with salicylic acid above all other remedies, as it seemed to act most like a specific in this disease in mitigating symptoms. It certainly is an innocent remedy and aside of perhaps causing giddiness of the head or tinnitus aurium can do no harm. Not much can be said in favor of incision; it does not prevent a recurrence of the disease nor does it relieve the local pain, for this is not alone confined to the tonsil, but also extends over to the soft palate and adjoining cellular tissue. The pain caused by the swelling is not due to the protrusion of the tonsil in the throat, but to infiltration and pressure in the neck on the underlying veins. No known means will yet cut short tonsillitis, or prevent its recurrence, but some cases abort themselves as in any other acute infectious disease.

The speaker doubted whether excision of the tonsil would give greater ease in swallowing, but he was confident that it improved the voice. Indeed for this reason alone, to improve the voice of singers, he had several times excised the tonsil. In order to sing well it is not alone sufficient that the larynx be in perfect condition, but the resonating cavities, the pharynx among the rest, must also be unobstructed. If this is blocked in any way the voice will be muffled. Amputation of large tonsils will certainly clear the voice.

Dr. Seely said that he had seen many enlarged tonsils, but he had never felt the necessity for cutting them off. He was not even so sure that enlarged tonsils interfered with the voice, for he had seen several cases where these glands were considerably hypertrophied and yet the voice remained clear. Difficult deglutition and altered voice may exist even without enlarged tonsils. The trouble lies in the disease of the mucous membrane in the region of the tonsils, the upper part of the pharynx and the posterior nares, there being an adenoid or follicular condition of this membrane. If this membrane be properly treated there will also be less liability to tonsillitis. The speaker had never seen a single recurrence of tonsillitis after he had gotten the mucous membrane in a proper condition. Heroic treatment is entirely wrong and will not prevent relapses. The treatment must be local to the mucous membrane and such general measures as may be necessary.

Dr. Davy took exception to some of the remarks made by both of the previous speakers. He was of the opinion that acute tonsillitis could be aborted by general treatment, not however by salicylic acid. It was the speaker's custom to treat acute tonsillitis in the first twenty-four hours with an old fashioned emetic: tartar emetic (two grs.), powdered ipecac (twenty to thirty grs.) and calomel (ten to fifteen grs.) given in a cup of warm water and a tablespoonful administered of this mixture every ten minutes till vomiting occurred. This, of course, is unpleasant and heroic treatment, but will often prove efficacious. He could hardly accept the last speaker's theory that the inflammation of the tonsil comes from a diseased condition of the mucous membrane in its vicinity. There must be a cause and it is not likely that tonsillitis arises from something so superficial. The tonsil is a collection of tubular glands closely joined together, a more important structure than the mucous membrane. The inflammation takes its origin in this gland and goes on to suppuration and the best treatment is to let it alone until suppuration takes place. In some cases excision is not only beneficial but necessary. Scarifications and local applications of iodine may be made for a time and yet excision must be finally resorted to. Only a small portion need be removed, but he would admit that this does not do away with the probability of a recurrence which may happen any time. The speaker knew of no agent which would remove the susceptibility in certain persons and if such a measure be known he was greatly surprised.

Dr. Whittaker replied that a distinction must be made between acute and chronic tonsillitis; they are two separate diseases. Acute tonsillitis, ordinarily called *quinsy* is an acute infectious disease, sometimes epidemic, frequently ushered in with a chill, fever, etc. If we accept this view we cannot as yet secure an abortion of the disease, as, for example, by emetics. Most authors now maintain that it runs a specific course, the poison, as it were, exploding itself on the fauces. It is not possible to cut short but simply to mitigate the disease.

Chronic tonsillitis is generally a manifestation of a scrofulous or tuberculous condition; there generally being signs of scrofula elsewhere in the body. Consequently there can be no gain in the general state in cutting off the tonsil; the treatment must be general. Caustics to the tonsil are painful, even more so than excision. Iodine, etc., injected into the tonsil will only produce small abscesses. The operation of ablation, or more strictly amputation, is not formidable, consequently there need be no aversion to it on account of its danger. The removal of these structures does not cause any inconvenience to the system. They simply act as lubricants to the bolus of food in the act of deglutition, but this function is supplied sufficiently by other structures. In considering the treatment of tonsillitis or enlarged tonsils it must be borne in mind that the acute and chronic form are two distinct diseases.

Dr. Seely asked if the previous speaker regarded acute tonsillitis first as a general disease with a local explosion of the poison in the tonsil, or whether the disease originated in the tonsil and then affected the general system.

Dr. Whittaker replied that he considered tonsillitis first a local and then a general affection in this respect similar to diphtheritis, afterwards affecting the blood.

Dr. Seely rejoined if this view be correct his treatment of the local affection would put the mucous membrane in such a condition as to be a soil unfit for the future development of the poison.

In answer to a question whether tonsillitis ever interfered with hearing, Dr. Seely answered, that it had nothing to do with it, at least as a mechanical cause, only inasmuch as a portion of the mucous membrane may become involved in the disease. The inflammation of the tonsils comes probably very largely, if not exclusively, in the beginning from the irritation of the surrounding mucous membrane. With the decadence of this disease the tonsils will gradually atrophy.

Dr. Wright remarked that the previous speaker took the position that tonsillitis could not cause deafness. How would he account for those cases of chronic tonsillitis accompanied by deafness where hearing was restored and remained permanent after excision of the tonsil? He (Dr. W.) had two such cases in his own practice. One patient had taken the syrup of iodide of iron for two or three years without deriving any relief; the tonsil was enormously swollen and, as he thought, also the mucous membrane behind it. He consulted a surgeon who advised and made an exsection, the hearing was restored and has remained permanent ever since.

Dr. Seely replied that the impression now-a-days is that not much confidence can be placed upon the attainment of such immediate results after excision. In the last decade to his knowledge, no such marvelous results have been reported. Although he did not in the least, doubt the veracity of the previous speaker, he was always exceedingly sceptical in regard to the relief, especially sudden relief, given by an operation. Subsequent benefit may be derived from the removal of the source of irritation. Patients breathe through their mouths not because the tonsil is enlarged but because the mucous membrane of the naso-pharynx is thickened. He could not belive that an enlarged tonsil interfered with hearing on account of its mechanical pressure.[1]

Dr. Ravogli said he would call attention to a form of tonsillitis which he observed among hospital internes. Whilst in Rome he as well as other internes had been subject to the disease four or five times. The same observation had been made among the internes in the hospitals of London. He did not regard it due to a poisonous substance in the blood, but to the bad sanitary condition of the premises. Acute tonsillitis may be frequently relieved by a gargle consisting of extract of belladonna with biborate of soda and if the inflammation be very great by scarifications. If the infiltration be very large in chronic tonsillitis it may prove a source of great inconvenience and interfere with hearing by causing a catarrh of the middle ear.

Dr. Wenning remarked that he listened with great interest to all the remarks made by the various speakers and was especially struck with the difference of opinion expressed in the proper method of treating enlarged tonsils. As the speaker had been for many years a victim to this most troublesome affection he would give his own experience. From his earliest childhood he had been repeatedly troubled with tonsillitis, scarcely one winter found him without being affected with one or more attacks of inflammation of one or both tonsils. He was treated bot constitutionally and locally. He did not kno what the internal medication consisted in, bu remembered that he used all sorts of astringen in the form of gargles, etc. After a while th inflammation would subside, but after each fresh attack the tonsils would remain larger than before. *To his knowledge they never ended in suppuration.* When a student and after he had begun the practice of medicine, he sought and followed the advice of different professional brethern, but in spite of all treatment each winter brought with it fresh attacks of tonsillitis until the enlargement became so great as to be almost intolerable. Both glands were enormously hypertrophiod, especially the left, which pushed the uvula over to its fellow on the right side; the posterior wall of the pharynx was scarcely visible. He used caustics, particularly nitrate of silver in very strong solution until he finally spent a few minutes every day before a mirror cauterizing the tonsils with the pure stick lunar caustic. His speech was impeded, deglutition difficult and he had a constant desire to rid the fauces of some offending substance. *Hearing was, however, never interfered with.* Finally, although against the advice of several friends, he determined to have the offending bodies removed. About eight years ago the left tonsil was entirely excised at its base with the ring tonsillotome. On account of the excessive hemorrhage that followed the operation the right tonsil was left intact. An examination of the left tonsil showed how utterly futile all attempts at reducing the size of the organ had been. It was pierced with numerous small openings from the action of the caustic, but the consistence, which was that of cartilage, had been unaffected. In about one week after the operation the raw surface between the pillars of the fauces had healed, great relief in the act of deglutition was experienced, the speech also improved, and since that time, although the hypertrophiod right tonsil remained, no further trouble has been experienced. There can be no question that in this instance the inflammation was at first acute and then became chronic. If there was a condition of scrofula or tuberculosis in his case, as might be inferred from the remarks made by one of the gentlemen who expressed the opinion that most chronic cases are scrofulous or tuberculous, he was not aware of it, as he never had any other manifestations of such a dyscrasia. He felt perfectly convinced that neither constitutional nor local measures could ever have been followed by the slightest benefit. If the tonsils then are such unimportant organs, contributing only to the lubrication of the morsel of food during deglutition, what objection can there be to removal when this function is made impossible by disease? They were simply foreign bodies, a constant source of irritation by their mere presence and as such ought to be removed. The speaker would by no means have it understood that every enlarged tonsil ought to be excised, but was convinced that whenever its reduction becomes impossible the sooner it is removed the better.

Dr. Thrasher in concluding the discussion, said he did not know whether tonsillitis is an acute infectious disease or not, but knew that it occurred oftener in winter than at any other time. Tonsillitis may be accompanied by a hypertrophy of the mucous membrane of the nose, especially of the inferior turbinated bones, and *vice versa*, but it was not therefore proven that one caused the other. From the anatomical relations an enlarged tonsil cannot press on the Eustachian tube sufficiently to cause loss of hearing, but hypertrophy of the pharyngeal tonsil may do so. If the enlargement is due to adenoid vegetations, as Dr. Seely thought, the disease was not easily overcome.

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[1] As Burnett says, "this operation of tonsillitomy I consider rarely, if ever, necessary for the relief of hardness of hearing or deafness, simply because the altered functron of hearing is in no way dependent on tonsillar enlargement. The larger tonsil is often on the side of the better ear; sometimes on the side of a perfectly normal ear, and not uncommonly enlarged tonsils are found in those of perfect hearing. When enlargement of the tonsils is associated with deafness, they are to be regarded simply as symptoms of a catarrhal condition which has also brought about alteration in the glandular structures of the naso-pharynx, Eustachian tube, and in the middle-ear. This violent excision (and excision is always violent) is worse than useless—it is positively harmful and always alarming."—Pg. 413. (W.W.S.)

He did not maintain that tonsillotomy removed the possibility of recurrence of tonsillitis, but claimed, with the majority of authors, that it did not recur so frequently as before. If the tonsils are very large they are a constant source of irritation and may therefore cause tonsillitis.

On general principles he considered full doses of quinia with morphia more rational treatment in aborting the disease than any thing else.

Erythema Nodosum.

Dr. Wallingford said he had a case at present regarding which he would like to have information as to diagnosis: a boy nine years of age, otherwise healthy, had a swelling on both legs below the knee, about the middle of the tibia. This swelling, which lasted about two days, was about two fingers wide, had a pale, florid color, and was hot and painful. The child was not suffering in any other way, but the legs were so sore from jumping and running that his mother sought medical advice. The family is scrofulous, two members had erysipelas and the mother has and ankylosed knee. He regarded the case as one of acute periostitis.

Dr. Ransohoff said that all the symptoms pointed to a typical case of erythema nodosum. It occurs most frequently in children, is of no gravity and usually disappears in about one week or ten days.

Dr. Wallingford replied that he was glad that the previous speaker had mentioned erythema nodosum; for another child, a member of the same family had this disease even more typical than the one just described. The child with the erythema did not complain so much as this one, but the latter seems to have the disease in the bone and suffers pain even when quiet.

Dr. Wright mentioned a case of whooping cough in an old lady in her eighty-first year. This same patient had two attacks of this disease in her childhood.

The Cincinnati Medical Society will meet next Tuesday Evening, May 9, at Lancet Hall, No. 201 West Seventh Street. A full attendance is desired.

BUTLER COUNTY MEDICAL SOCIETY.

Remarks on Diseases of the Middle Ear and Mastoid Cells.

The Butler County Medical Society held its regular monthly meeting at the Court House in Hamilton, April 5th, 1882. The meeting was called to order by the President, Dr. Dickey. Present: Drs, Dickey, Reed, Miliken, Ellis, Stricker, Kully, Hill, Caldwell, McNully, and Horn.

Minutes of the last two meetings read and approved.

Dr. Hill having been appointed one of the essayists at the last meeting was called upon for his paper; he being unprepared was excused by the President. The other regular essayist, Dr. Cook, of Somerville, was absent. Volunteer papers and reports on interesting cases.

Dr. McNully brought an elderly man—German—before the Society who had been ordered before him to be examined for a pension. The ground for his claim was deafness and injury to his ears, while in the service during the war. He had enlisted in the 12th Ohio Volunteers at the beginning of the war, and was at the time a sound, healthy man. He said that once, in time of battle, while standing near a battery of artillery, he received a terrible shock from the concussion of the firing, that he had at once become deaf, and after six weeks of deafness, ringing in the ears, fullness in his temples and great pain in his head, he had been partially relieved by the appearance of a discharge just above and back of the right ear, and that he had become almost deaf in the left ear. Dr. McNully went on to state that from what he could learn in reference to the case that this man had had no trouble about his hearing at the time of his enlistment. At the present time he is totally deaf in the right ear. Hearing on the left side is so defective that he can only hear the watch one-half an inch away. Fistulous opening in the right mastoid process reaching down into the pneumatic cells and through and beyond them, making a free communication into the middle ear and meatus externus. Quite a large quantity of wax was present, which was removed by syringing with warm water. A stream of water thrown in at the meatus externus came out at the artificial opening, and *vice versa*.

Dr. Ellis than read some notes he had made on this case, together with some general observations on diseases of the mastoid cells and middle ear. He said that he had made an examination of this man's case and found the following: Right membrana-tympani destroyed; handle of the malleus gone; fleshy granulations upon the posterior wall of the middle ear; free discharge of pus from the affected parts; free communication between the fistulous opening and middle ear; right eustachian tube pervious; air passed in a full stream when a catheter and rubber air-bag were used. Had tried to catheterize the left eustachian tube, but had failed, the patient being unwilling or unable to control the muscle of the soft palate on that side. Drum membrane of the left ear was intact, cupped inwards, and abnormally white. It still bears marks of former trouble. Watch heard one-half inch away. Examination of the throat showed the presence of a chronic follicular inflammation which had apparently existed many years. This man seemed to think that all his ear trouble came from the concussion of the firing of a great gun in time of battle. Dr. Ellis did not think that such an occurrence could produce so much trouble in the middle ear as to extend down into the mastoid cells; but that a violent concussion of air might produce deafness by a breaking up, or a disturbing of the conducting apparatus of the drum membrane, chain of bones, and fenestra oralis, he could readily believe. Evidently the trouble in this case had begun in the throat, and extended up through the eustachian tubes into the middle ear, on both sides, as an aural catarrh. It had run its course on the left side, and left a dry, sclerosed condition of the middle ear. On the other side the disease had been more severe and had gone down into the pneumatic cells. Fortunately it had found egress through the channel of the mastoid emissary veins into the tissues on the outside of the head, and in this way, perhaps, saved the man's life.

The mastoid cells vary much in different people in size and depth. Sometimes they occupy the whole of the interior mastoid portion of the temporal bone, while in other cases the bone is almost solid, and the cells small and few in number. A German aurist, who examined 250 skulls, found that air cavities were wholly lacking in 20 per cent, and that perfectly pneumatic mastoid processes without any diploetic spaces represented only 38 per cent. Furthermore, that often the lower half of the process is diploetic and the upper half pneumatic. Hyrth examined 600 skulls and found that sometimes—though very rarely—the pneumatic spaces extend back into the occipital bone. Now it is very plain to be seen that sometimes when we think that we have an inflammation extending into the diploetic spaces the trouble is only in the pneumatic cells. The same can be said in reference to the region immediately in front of the meatus-externus.

At first the mastoid process consists of a small, flattened tuberosity containing but one cell of any size—the antrum. At puberty this process is generally well developed. In the early years of childhood the only representation of the mastoid cells is that horizontal portion lying immediately adjacent to the tympanitic cavity. It is well to remember this, for it is easy to be seen that diseases occurring in early childhood extend in an entirely different direction, than if occurring in later years. The upper wall of the horizontal portion of the mastoid cells is formed by a bone continuous with that of the upper wall of the tympanum. Hence it is that caries of the roof of the cavity will tend to produce trouble in the vessels supplying the dura mater lying directly under the front lobes of the brain. This horizontal portion frequently presents a concavity in its floor, in which mucous and other secretions are apt to occur.

As the mastoid cells increase in size and number, with increasing years, they extend downward and backward into the region of the cerebellum and lateral sinuses. Thus it is that caries, phlebitis, and abscesses are found in this region, and present an entirely different train of symptoms to those occurring in childhood. This is a very important point in diagnosis and treatment.

The next thing that engages our attention is the depth of these cells from the surface. Generally speaking, they are from one-half to three-eighths of an inch in depth, except when there may be a condition of sclerosis or hyperostosis—a condition often due to, or following a chronic subacute inflammation of the middle ear—when the bone has become thickened and as hard as ivory. In putting a drill or chisel into this region, it is well to keep these facts in mind. Passing directly through the mastoid process and these pneumatic cells we come into the *sulcus-lateralis* containing the lateral sinus, the walls of which are so very thin that they are almost translucent in the skeleton. Go slow when you are working around those parts. A little too much force, and you may go into the lateral sinus and have the dreadful sight of a dead man lying on your table! The posterior auricular artery runs immediately behind the auricle. Should this vessel become wounded you may have a traumatic aneurism. Some writers have spoken of it as being hard to control, should it become injured. The facial nerve enters the meatus-auditorius-internus and follows the serpentine course of Aqueductus Fallopii until it emerges at the stylo-mastoid-foramen. It is easy to be seen that there is no danger of wounding this nerve in an operation to enter the mastoid cells. The internal jugular vein lies too far away to be taken into account. Now, there still remains two anatomical points of the greatest consequence, and those are the channels giving passage to blood and lymph to and from the antrum. I refer to the sutura-petro-squamosa and to the mastoid emissary veins. It is along the first of these channels that inflammation spreads from the antrum to the intra-cranials organs and along the second that it reaches the sub-cutaneous cellular-tissue on the side of the neck. Inflammation of the mastoid cells may always set up a phlebitis and perhaps thrombosis of the lateral sinus with which it directly communicates. Right here permit the remark that death *often* results from irritation of the brain long before the bone has become dead or the blood poisoned.

The mucous membrane lining these cells *is* nothing but a continuation of the mucous membrane lining the cavity of the middle-ear. This you must not lose sight of, for, aside from external injuries in the shape of cuts and bruises, we never have any trouble in the mastoid cells, unless it comes by the way of the middle ear. Now, what are the most frequent causes of trouble in the middle ear?

They are from measles, scarlatina, small-pox and a scrofulous condition of the blood. Then is an aural catarrh and tympanitis set up; there is swelling, heat, congestion, pain, deafness, ringing in the ears with an entension of the trouble either *outwards* by way of perforation of the membrana-tympani and external auditory canal, or *downwards* and *backwards* into the mastoid cavities. The word "obstruction" hits the nail on the head when we come to speak on this point. Now mark the condition of things. Trouble in the throat extends into the middle ear by way of the eustachian tubes, the lining of which become inflamed and swollen. Part of the length of that tube is enclosed in bony walls, and hence there is no chance to *give* or expand. The trouble increases every hour, and it is not long before *rent must be given!* Take in the anatomy of the drum membrane and you'll see at a glance that it is not likely to give way or become perforated until some ulcerative action has taken place. It is often strong and tough and will stand much pressure. Now the only passage left is the opening into the mastoid cells, and then very often the disease will go on with all its dire consequences. Now, suppose that this bony prominence is pneumatic. Those large and freely intercommunicating cells become filled with pus, and, after awhile, under the influence of ulcerative processes, the bony septum between the cells undergoes disintegration, and we have the entire region converted into an abscess imprisoned within a shell of bone. Pressure upon the mucous membrane lining this cavity produces caries of some part of underlying bone, and then there results either part or all of the following:—

I. Inflammation of the membrane of the brain.

II. Formation of an abscess on or in the brain.

III. Development of a purulent phlebitis with basilar meningitis.

The extension of the trouble down the internal jugular from the lateral sinus is evident. The walls become thickened, covered with lymph, and smeared with an unhealthy, purulent matter. Usually it is not long until the inflammation extends down into the vena cava and right side of the heart. When once the blood becomes poisoned by the introduction of septic material, the whole economy begins to groan under its weight, and there is no telling when the trouble will end!

I once saw an autopsy in Grufer's clinic in Vienna, where perforation had extended into the lateral sinus and death had ensued.

Rheumatism had been suspected and many of the symptoms of that disease—such as rigors, fever, high temperature, perspiration, pain in the bones, swelling of the joints, rapid and thready pulse—were present. The post-mortem showed that a number of the joints were filled or surrounded with great abscesses of dark, grumous, foul matter. It was not rheumatism, but general blood poisoning.

Every time I have to deal with the neuroses of the larynx, I instinctively look to the region of the middle ear. A couple of cases which I once saw at the London Central Throat Hospital gave me a lesson I will never forget. A young woman, some twenty-five years of age, was admitted to the wards as an indoor patient, complaining of a running of the right ear, which had existed for many years, and an occasional acute pain in that ear and side of the head whenever the discharge ceased for a time. The region of the mastoid process was hot, swollen and very tender to the touch. Her voice was lost, and the respiration hurried and difficult. Laryngoscopic examination showed bilateral paralysis of the adductors of the cords. Slight laryngeal catarrh, no pain in that region. The drum membrane was perforated by a small opening, and down the side of the neck there was a distinct rope-like swelling (very tender to the touch) in the situation of the carotid sheath. The fourth day after admission, symptoms of meningitis set in, followed by death in fourteen hours. The autopsy showed caries of the posterior portion of the temporal bone, inflammation of that part of the membrane lying immediately under the right side of the cerebellum, obstruction of the right lateral sinus, coagulation of the blood in the right internal jugular vein, and inflammation of the sheath with involvement of the pneumogastric nerve.

The other case was where perforation had followed the track of the mastoid emissary veins, and an abscess formed in the base of the brain in the immediate region of the restiform body and fourth ventricle. In this case there had long been partial paralysis of the adductors of the vocal cords. Ever bear in mind that the spinal accessory nerve is the nerve of the voice, and that the recurrent laryngeal nerve supplies the laryngeal muscles and vocal cords. These are branches of the pneumogastric nerve. Let us look a little into the origin of that nerve. Tracing it upward through the jugular foramen, we find it originates in eight or ten filaments, rising from the lateral tract immediately behind the olivary body. Deeper these little thread-like processes extend through the fasciculi of the medulla oblongata into the lower part of the floor of the fourth ventricle. Now, ever keep in mind that we often find caries of the temporal bone, and all subsequent trouble in this immediate region. The facial nerve also rises in that part, and hence any state of things affecting one will influence the other. The facial nerve often becomes paralyzed through pressure of pus or products of inflammation on its way through the tortuous course of the aqueductus fallopii. The paralysis of this nerve will enable us to judge just about how far the inflammation of the mucous membrane of the tympanic cavity and antrum has extended into the substance of the surrounding parts. As a symptom it is not necessarily a grave one. Very often it disappears in the course of a few weeks, though often it remains permanently after the mastoid disorder has been cured.

[In our next issue will be published the paper read before the above society by Dr. Dan Millikin, on "Genital Reflexes in the Male."]

TREATMENT OF HYDROCELE.— Rol advocates the method of Maisonneuve as practiced by Defer. After puncture of the sac and evacuation of its contents through a canula of medium size, a sound is introduced, upon the end of which some lunar caustic has been deposited by the heat of a lamp. After sweeping the caustic around over the walls of the sac in all directions, it is removed with the canula. After a rather severe inflammation of five or six days' duration, the recovery is rapid and complete; not, however, by adhesion, but simply by a change in the walls of the sac.—*La Chron. med. di Barcelona.—Deutch. Med. Zeitung.* J.M.F.

Selections.

MEDICINE.

Diabetes.—By Edmund A. Cook, PH.D., F. C. S., L. R. C. P. & S. ED., L. F. P. S. G. The symptoms which taken together make up what is called diabetes mellitus, have been the subject of thought and speculation by many writers, but to this day they continue a subject of speculation. One of the latest writers on the *Theory and Practice of Medicine*, in his article on this subject under the heading of "Causation," writes: "The cause of diabetes is not known." Trousseau quotes a case in which the patient distinctly stated the symptoms to have commenced from a time when he drank large quantities of cold water while in a heated state, and two similar cases have come within my own experience. Pavy, in his work on the subject, comes to the conclusion that the cause of the symptoms is an abnormal action caused by insufficient deoxidation of arterial blood, but regarding the primary cause of the abnormal action he is by no means clear; and although he instances the production of diabetic symptoms by puncture of the fourth ventricle of the brain, by injection of arterial blood into the portal vein, and by increased respiration without muscular exertion, yet it is not evident that he means to suggest that one or any of these may be the primary origin of the diabetes of pathology. This uncertainty may partly arise from the fact that these symptoms have been regarded hitherto as a *disease*, and not as symptoms which may be common to various lesions or diseases, in the same way as jaundice may be a symptom of several abnormal states of the system. Pavy suggests that some lesion of nerve substance is the cause of the symptoms. It is evident that a lesion of nerve substance may be peripheral or central, may be productive of increased or diminished action, and yet these different lesions, and their results, could with difficulty be classed as one disease. Pleurisy, pneumonia, &c., are usually supposed to be due to local irritation caused by exposure. Instances have been known of men in vigorous health and strength who have received injuries to the head which produced primarily nervous symptoms only, and while under strict medical care, without exposure, pleurisy, pneumonia, and other diseases of internal organs, have supervened. Is it too much to say that these secondary symptoms were set up from the nerve centre and not from primary action on the peripheral nerves in the organ affected, as may perhaps be admitted to be usually the case? And these symptoms were not to be regarded as diseases, but as results of nerve injury, symptoms which it would be useless to treat by ordinary rules. Just in the same manner may diabetic symptoms be due in different cases to different primary causes. In the cases known to have dated from drinking largely while in a heated state, the lesion may have been in the peripheral nerves of the stomach; in other cases the lesion may have been central; but although the symptoms be the same in both classes of cases, yet the one might be amenable to a mode of treatment which when applied to the other would have no effect.

A marked diabetic symptom which deserves attention is the diminished action of all the secreting organs of the body except one *i. e.* the kidney. The salivary and skin glands, the liver, the peptic glands, the testicle, are all inactive, and the action of the kidney is increased in consequence of the amount of morbid material to be removed from the blood. It is proved that in these cases a mere diminution of urine is no sign of improvement but rather the reverse, for while sugar has to be excreted, any such diminution only tends to the outbreak of futher secondary diseases, and the patient rapidly dies. Moreover, the craving of water is dependent on the amount of urine excreted, and this is dependent in its turn on the amount of sugar in the blood. We have no knowledge of the abnormal action by which this sugar is produced, but we know it is a product of the normal action of saliva on starchy material, whereas the normal products of peptic fluid on starchy matter Brucke has proved to be various dextrins, one of which is perhaps identical with glycogen; the pancreatic fluid has been proved to have little or no effect on these dextrins, therefore their conversion into sugar may be allowed to be due to an abnormal action of normal secretions, or to the action of abnormal secretions, and in either case any hope of improvement in this disorder must depend on our ability to excite to healthy action the secreting glands.

Whether the primary lesion has been caused by sudden imbibition of cold liquid, or in some other way, it is certain that the quantities of liquid habitually consumed by diabetics must be very hurtful to digestion. The peptic glands would pour their secretion into a mass of diluting fluid, but little food could be rendered fit for absorption, and this fluid is absorbed, carried by the veins partly to the general circulation, partly to the liver, and thus the blood must be constantly diluted. In treating such cases we must endeavor to decrease the water consumed. This is very difficult to effect while so much urine is passing away, for if the patient denies himself liquid by force of will, a kind of ravenous state sets in, and life is unbearable. While the sugar is constantly produced it must as constantly be eliminated, and to effect this by the kidneys a certain amount of water is necessary. The state of the case in such patients seems to necessitate a choice of evils. If you seek by drugs or by deprivation of fluid to diminish the amount of urine, sugar accumulates in the blood. If water be allowed in the quantity required, the patient dies from want of nutrition, because the digestive organs are unable to act, and the blood is depleted of other life-sustaining substances.

In dealing with these symptoms we must not neglect the morbid physiological states produced by them; we must not hope for permanent improvement by administering drugs which increase morbid conditions. If in a disease like phthisis it is so well recognized that opiates are prejudicial in consequence of their action in disordering the stomach, how much more strongly should this fact be borne in mind in the treatment of diabetic symptoms? Doubtless a temporary apparent improvement is sometimes manifest from their use, but it is at the cost of a real decline in vital power; or if a real improvement is effected, it must be by some occult special action on the special lesion in these cases, and no generalization can be made. The diabetic symptoms in the order of thèir importance, when well established, are—(1) excessive thirst; (2) constipation; (3) lack of digestive power; (4) twitching of muscles, especially those of the lower limbs; (5) weakness; (6) the excretion of excessive urine and sugar; and it is in this order that treatment is most urgently demanded.

Any one who has watched a well-marked case will not need to be convinced that it is of importance for the comfort of the patient that the hard dry tongue should be kept moist, and if the orifices of the salivary ducts are examined they will be found dry also. The drugs which are known to increase salivary secretion are mercury, nitro-hydrochloric acid, and pilocarpine. The first is in most cases inadmissible; the second is of some value, but pilocarpine is the drug suitable above all others. When administered in $\frac{1}{8}$ to $\frac{1}{3}$ gr. doses its general effect is most powerful, and such an administration in diabetic cases would be hurtful; but if a minute dose be applied locally and repeatedly, the mouth can be kept moist. If the nitrate be disolved in dilute spirit, so that five drops shall be equal $\frac{1}{20}$ gr., and if this quantity be placed every four hours between the lip and the gum, in a short time a great improvement will be apparent, and as this proceeds the dose can be reduced to one-half with advantage. The general effect of this treatment is that the patient demands less liquid.

I have been present at four post-mortem inspections of diabetic patients; the deaths in all four had been sudden, and in all four the intestines presented evidence of most marked constipation, the fæces in the lower bowel being exceedingly hard. I do not remember a single case of diabetes in which marked constipation was not a symptom; when it was relieved the liquid taken and excreted was diminished, but the relief was often not possible by ordinary doses or measures; and I have learned that when this state is neglected there is some marked danger of sudden death. An enema passed high up the rectum and of large amount is the most satisfactory method of treatment until a general amendment commences, when this symptom diminishes.

When the diet of a diabetic patient is made to consist almost wholly of non-farinaceous material it is especially necessary that the digestive arrangements be in as good order as possible, and so much the more is this the case if the greater portion of the diet be milk. It is no uncommon thing for a diabetic to drink four or five pints of liquid at once—this must distend the stomach and weaken digestion—the peptic glands may be paralyzed. The best remedy for this state is to give with all meals pepsin and hydrochloric acid, and to allow no liquids for some little period previous to the meal. In the majority of cases a marked improvement will soon follow this line of treatment—the bodily weight will increase, the constipation often will entirely disappear, and the desire for fluids and the consequent polyuria be diminished.

The urine excreted contains, besides sugar, mineral salts, and when we consider the amount draining away it must at once appear most appropriate to administer some material suitable to replace this drainage. Phosphates are the most essential, and a solution containing no sugar will be required. The following I have prepared in large quantity and administered with much benefit:——

Bone-ash of femur, 1040 gr.
Phosphate of magnesia, 800 gr.
Phosphate of potash, 1900 gr.
Phosphate of soda, 3520 gr.
Syrupy phosphoric acid, q.s.
Water, to 64 oz.

Powder the bone-ash and add 4 oz. of syrupy phosphoric acid diluted with an equal bulk of water; add the phosphate of magnesia and leave for twelve hours; dilute with water to 40 oz. and filter; dissolve the phosphate of potash and soda in water and add to the clear filtrate; add sufficient phosphoric acid to re-dissolve any precipitate formed, and make up the bulk to 64 oz. Dose, ʒi. thrice daily in water.

When the above-described methods of treatment are followed out, the patient suffering from diabetic symptoms has a rational prospect of improvement. The twitching of the muscles, the weakness, the polyuria, may be neglected; they will disappear, as will also the melancholia, the impotence, and the wasting. The sugar in the urine I have never known to disappear entirely, but always to diminish in quantity. It may be there are cases of disease presenting diabetic symptoms in which the whole of the above method of treatment would be of no avail, but I have never seen one in which improvement did not take place if it were used before the last stage of exhaustion had set in; and when recovery has to a certain extent taken place it is not necessary to rigidly enforce it for fear of relapse.—*Practitioner.*

THE ACTION OF CALOMEL ON FERMENTATION AND ON THE LIFE OF MICRO-ORGANISM.—A paper with this heading appears in the last number of Hoppe-Seyler's *Zeitschrift für Physiologische Chemie*, by N. P. Wassilieff, who, after noting the high estimation in which calomel has been always held in disordered conditions of the bowels, especially in children, points out the absence of any experiments to show or explain the cause of its influence, with one or two exceptions. Voit, indeed, as long ago as 1837, observed that albumen and blood mingled with calomel were capable of being kept for days without any indication of putrefaction, and Hoppe-Seyler made some similar observations; but besides these, few, if any, researches have been made on its action. In M. Wassilieff's experiments, calomel was added to the fluid obtained by acting on albumen with pancreatic juice: and he satisfied himself that the albumen-digesting ferment of both these fluids was not damaged by calomel—peptones in the one instance, and leucin and tyrosin in the other, appearing as usual—but that the presence of this substance prevented the formation of the secondary products, such as indol and phenol. Neither hydrogen nor hydrogen sulphide formed in the fluids containing calomel, whilst they were abundantly produced in the others. In like manner, the author experimented on the effect of calomel on the fat-digesting and the amylolytic ferments of the pancreas, and found that it had no modifying influence upon them, but that it arrested the changes which followed their completion, entirely preventing, for example, the butyric acid fermentation and putrefactive processes. He hence arrives at the conclusion that calomel acts different on the formed or organized and the unformed or unorganized ferments, permitting the action of the former to proceed unchecked, but completely preventing the action of the latter.—*Lancet*, March 4, 1882,

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ON THE TREATMENT OF ECZEMA BY BANTINGISM.—Balmanno Squire, Senior Surgeon to the British Hospital for Diseases of the Skin, contributes the following to the *British Med. Jour*:

It is familiar to every practitioner that eczema is specially common among infants, and particularly amongst lymphatic infants, that is to say, fat and pasty-looking infants. I do not refer only to those instances in which the very fatness of the infant is the mechanical cause of the complaint; that is to say, where "a fold" of skin in the fat infant becomes raw and discharging (intertrigo); but I refer to the well known fact that infants of this constitution are more liable than others to eczema (of the scalp and other parts), not coming under the head of "intertrigo," and that their eczema is more profuse in its discharge, whether that discharge be serous or purulent, than it is in other infants ; it is also more obstinate.

I recently recorded in the *Journal* some experiments I had made with Iodoform as an application in such cases, and which succeeded very well as a means of reducing the eczema of such infants from the discharging to the dry condition pretty rapidly. As to that, I was supported by other writers.

But from some observations I have recently made, I have reason to think that Bantingism as applied to such infants is as rapid in its effects, and if sustained, is of more permanent efficacy. Some years ago the late Mr. Banting was under my care for eczema, and I had an opportunity of conversing with him pretty frequently on the system of which he was the apostle. It is through this accident that the idea suggested itself to me.

I have used the word infant for the sake of convenience, but I refer rather to very young children. To Bantingise a suckling infant, is of course, not very practicable, but a child of two or three years old can be dieted very readily. It does not appear necessary to the end in view that the diet should be restricted in quantity as well as quality, which of course was essential under the *regime* laid down by Mr. Banting, or by the late Mr. Harvey (the aurist) for him. It is simply necessary to limit the fat-producing elements of food for the amelioration of eczema in lymphatic young children. At least so I have found. By this means their excessive obesity becomes diminished and their eczema very remarkably improved within ten days of commencing the regimen, and that without any injury whatever to their general health, so far as I can judge.

In place of pure milk, they should take milk diluted with an equal or even a double quantity of water. In place of bread and butter they should take dry toast or dry biscuits; and with these particular articles of food they may be supplied indefinitely. All the fat is to be carefully cut away from such meat as they may partake of, and they should not be allowed pork, veal, or lamb. They may have poultry or game, or fish, except the oily kind of fishes, such as herrings, salmon, eels, etc.; and the fish they partake of should be broiled (not fried). They may eat boiled vegetable tops, but not vegetable roots, such as potato, parsnip, beet-root, turnip or carrot. Beef-tea (the melted fat being carefully skimmed off) is permissible in any quantity, and so, also, toast and water. Cooked fruit (not sweetened) may also be allowed.

But the principles of the Banting treatment are universally known. It only remains for me to say that cod-liver oil (the favorite remedy, *par excellence*, for the condition of which I am speaking) is quite incompatible with the treatment I am advocating. Of course, the health of the child should be watched, and it should be weighed at the commencement of its dieting, and afterwards from week to week.

QUININE FOR COLDS.—Nothing will so effectually prevent a cold, or so speedily arrest it in the first stages, as quinine. If you feel chilly, begin to sneeze, and suffer from feelings of tightness in the nasal passages, take five grains of quinine, and repeat the dose every six hours till three doses are taken, and you will soon be well of your cold. In this latitude colds are nearly always complicated with neuralgias, or symptoms of rheumatism, and where this is the case, the quinine is still the most useful. People who are exceedingly liable to colds, once knowing the virtues of quinine to prevent and arrest these attacks cannot appreciate this practical hint too highly. And quinine may be used to relieve a cold after it had been running several days. The system is depressed, probably, and needs a cerebro-spinal stimulant. Quinine is the thing. But it is peculiarly appropriate in the first or forming stage. Of course other remedies may be necessary to relieve any bronchial element that may be manifest, but to aid the system in throwing off, or to prevent depression, quinine is the remedy.—*Monthly Rev. of Pharm.*

SPINAL LESIONS IN SYPHILIS.—Dr. Jarisch of Vienna reports seven cases of spinal lesions in syphilis of varying duration (*Vierteljahrschrift f. Dermat. u. Syph.*). The investigations were conducted upon four cases of hereditary lues, one case recently acquired, one of six years' standing, and one of unknown duration, the remaining case being of longer standing. The lesion consisted sometimes in an atrophy of the ganglionic cells, sometimes as homogenious, vitreous accumulations in the connective tissue of the anterior horns and the commissure. In two cases of acquired syphilis there were found hemorrhagic spots in the tissues of the commissure and the anterior horn; in one a sclerosis of the reticulum of the grey substance. In two cases of hereditary syphilis the lesion was undetermined. Although the diversity of material made use of in these observations and the variety of results obtained in the individual cases, render the deduction therefrom of any fixed conclusion impossible, yet the observations made may serve as the basis for further investigations in this direction.—*Deutsche Med. Zeitung.* J.M.F.

INJURY PECULIAR TO CHILDREN, PROBABLY DISLOCATION OF EITHER END OF RADIUS.—A short article, entitled "Dislocation of the Elbow Joint in Children," by Mr. S. H. Lindeman, which appeared in *The British Medical Journal*, March 18th, interested me, because it is the only notice I have observed of this injury, except the one referred to in Mr. C. Heath's *Minor Surgery*, and is one which has attracted my attention, as I have notes of several cases. From what little has been written on the subject, there is great diversity of opinion as to the seat of the injury and its nature. The injury is described by Heath as being rare, but I have seen ten cases in as many years, and Mr. Lindeman says he saw ten in a year; the injury would either appear so trivial as to be beneath the notice of publication, or else we must be acute observers (perhaps too acute), to which qualification personally I do not lay any claim. So far as my observation has gone, it is generally confined to children who are delicate and atonic, and who are not more than six years old.

A typcial case is this: A child is brought who is suffering pain in the arm, with inability to lift the fore-arm, or to catch anything offered it, with the arm not quite semi-flexed, and the fore-arm fully pronated as a rule. The injury, in seven of the cases, was situated at the elbow, though in three it seemed to be at the wrist. There is seldom any deformity to be seen or felt; but, when the fore-arm is supinated and then flexed, a slight *click* is usually heard or felt, and the pain vanishes in a minute. If one now offer a coin to the child, it will lift its arm and catch it at once. Sometimes this manipulation is not sufficient, for, supinating the fore-arm, the hand must be flexed on the arm. The injury is apt to recur, and may not do so at the sáme seat, for I had one case in which the injury seemed to be situated at the wrist twice and once at the elbow. Another case had it thrice at the elbow; once when the child was on a visit. The surgeon who examined it could detect nothing, but after making his examination it was better. This I believe to be one reason of its so-called rarity; for, on making the customary examination for some probable dislocation, it is rectified, and it is quite a possible thing that cases rectify themselves, for the displacement is so slight.

Mr. McNab, of Epping, who was the first to write about it in this country, thinks it is the lower end of the radius which is dislocated from the ulna. M. Goyrand says it is a displacement of the interarticular cartilage of the wrist, at the end of the ulna. Other French surgeons, also Dr. Hodges of Boston, and Mr. S. H. Lindeman, think that it is the head of the radius which is displaced at the elbow. Mr. C. Heath thinks it occurs at the wrist, and other times near the elbow, it seems to be a slight displacement of the head of the radius forwards and probably outwards. In one case at the wrist the injury was not remedied, though I supinated the arm and flexed the wrist, till I moulded the parts, as it were, surrounding the wrist joint. This, I thought, might be a case of displacement of the ulnar interarticular cartilage, but I am more inclined to think that the injury at the wrist is due to displacement of the lower end of the radius.

The majority of the cases which I have seen were caused by some one catching hold of the hand of the child, who was then dragged toward them. In a few cases, where I could get more reliable information, a nurse girl stood behind the child, who was sitting, caught it by the hand, which caused it to rotate, as it were, on its elbow joint, with its arm fully pronated, and raised it at the same time from the floor.—*W. Sneddon, M. D. in the Brit. Med. Jour.*

TREATMENT OF EPILEPSY.—Dr. James Davis advises for the treatment of epilepsy the simultaneous use of atropine and the bromides of potassium and ammonium. For six months he has given thrice daily a dose of

Potassii Bromidi,	1 gram 30
Ammonii bromidi,	0 gram 60

At the same time he gave, morning and evening, a granule containing one milligram of sulphate of atropia. After this he prescribed pills containing:

Zinci Valerianatis,	4 centigr.
Ext. Belladonnæ,	6 milligr.
Acidi Arseniosi,	2 milligr.
Extracti Gentianæ,	q.s.

The patient takes two such pills daily for two months; the quantity of valerianate of zinc is then doubled and this treatment continued two months more. He then returns to the bromides for six or eight months; and then he alternates with the pills for two or three years.—*Abeille Méd.—Lyon Medical.* J.M.F.

HYPODERMIC INJECTION OF THE CITRATE OF IRON IN ANEMIA.—Dr. Ciaramelli has been experimenting upon the use of iron by hypodermic injection. He first observed that iron taken inwardly by animals did not appear in the urine, whereas when injected into the veins it did so appear. He therefore used it upon a patient by hypodermic injection, without, however, the intention of establishing any law from the results of that case. The patient had suffered for six years from anemia, the last four month's of which had been under the author's care, and all the preparations of iron had been tried with no benefit; the iron was always found in the urine and the stools. After administering hypodermically for one month two or three grams of an aqueous solution of the ammonio-citrate of iron, each gram containing five centigrams of the metal, the cheeks assumed a ruddy hue, and after continuing for a time the same treatment, one by one all the symptoms of anemia disappeared.

The injection was attended with a rather severe burning pain for a little time after the puncture of the skin, but no other untoward symptoms were observed. — *Annali clin. dell. ospedale degl' incurabili.—Gazetta med di Roma.*

J.M.F.

SURGERY.

The Iodoform Dressing in Surgery.—Concluded.—Four unmistakable excellent properties entitle iodoform to take a very prominent, if not the highest position in surgical practice; these are:

1. Its prompt and perfectly reliable antiseptic action on wounds of all kinds.
2. Its specific antituberculous influence on spongy tissues.
3. Its thoroughly proven action to promote resorption of morbid products, in which particular it surpasses all other iodine preparations known to this day.
4. Its action as an anodyne.

In regard to the first of these qualities, daily experience is teaching us, that iodoform is one of the best of all antiseptics, as has been proven experimentally by Mikulicz and Paneth. Iodoform is much more efficient than phenol, because its action is constant and lasting. These remarkable antiseptic properties justify the use of iodoform in all wounds, which are to be protected against septic absorption, as also for those which have been already attacked by septic inflammation, whose course ought to be checked. Now that Billroth has tested the powder in laparotomy and found that it answers every indication, and now that the author of this paper has used it in the healthy pleural cavity with astonishing results, it is logical to conclude that there is no tissue of the body where it ought to be excluded; for if it be well borne by pleura and peritoneum, what tissue is there to which it will prove injurious? Accordingly, iodoform is serviceable as a dressing for recent wounds, as also for those of older date, and if properly applied, with suitable provision for the escape of secretion will lead to cicatrization without fever and without any signs of sepsis. As already shown the application of the dressing is a very simple matter and may be undertaken by those who may not possess particular skill in such manipulations, without the aid of an assistant, without any special apparatus; it dispenses with the necessity for trained nurses and enables the physician to leave his patient for some time without the anxiety of possible accidents to the wound; a fact that makes it very valuable in country practice and military surgery. And it is not too much to say, that, just as the mortality has diminished in civil hospitals from year to year owing to the antiseptic method of Lister, so will there be a new era for the statistics of military surgery owing to the new remedy.

It is possible to-day to maintain a certain class of wounds in an antiseptic condition, which formerly were very susceptible to septic processes, and this is owing solely to the influence of iodoform. Reference is had to wounds in the neighborhood of or directly involving certain channels communicating with 'cavities in the interior of the body. The action of iodoform on croupous and diphtheritic processes of mucous membrane is still a subject of doubt, as it has not been sufficiently investigated. Falkson says on this point: "Some patients in whom tracheotomy had been performed for croup were dressed with iodoform, which was spread over the wound and also brought into the trachea; all died, for which reason the experiment was discontinued." Roux, of Berne, says, however, "I have covered with iodoform three tracheotomy wounds and in no case has a diphtheritic process occurred in the neighborhood of the canula, even in cases where long diphtheritic cylinders have been drawn out of the trachea and bronchi, while in the only case in which the wound was not treated in this manner, it was covered with this familiar and frightful deposit." We are thus brought face to face with opinions which are diametrically opposed and which will require the light of future experience for their elucidation.

2. The author was the first to insist on the specific action of iodoform in modifying the tubercular process and in acting favorably on cases of fungoid inflammation, and it is gratifying to find that this opinion has been confirmed by Gussenbauer, Mikulicz, Falkson, Höftman, Leisrink and others. From an extensive experience in this class of cases the author has found that in cases of fungoid disease it is not always necessary to remove the unhealthy granulations in order to cure the diseased process and that the iodoform powder distributed over the tubercular granulations causes them to disappear and to be replaced by healthy granulation tissue. In proof of this statement five cases are given in detail in the original article, which certainly seem to bear out the statements of the author in every particular, four being cases of diseased joints (of which three involved the bones about the ankle), and one being a case of cold abscess of the chest wall resulting from a necrosed rib, all of these cases being discharged entirely free from any trouble and the wounds being definitely closed. A close study of these cases also led to the observation that iodoform is capable of exerting its action over certain out-lying or distant portions of a diseased surface, although it be brought into contact with only a limited portion of the same, a view that has not, however, received the support of Mikulicz and other observers. This action is explained by supposing that in those parts which are free from any direct contact with the drug, the volatilized particles of iodoform still exert their modifying influence on the character of the wound.

Nothing positive is known in regard to a general action of iodoform on the diathesis which produces these local manifestations, although it is not at all uncommon to find that in tuberculous patients there is in addition to the local improvement a general amelioration of all the symptoms, cough, expectoration and sweating, becoming notably less; the physical signs however remaining unchanged.

What has been said in reference to the action of iodoform on fungoid disease applies only to the soft tissues; in carious condition of bone it is absolutely imperative to remove all of the diseased tissue before we can hope to obtain any relief for the patient; the iodoform would influence only the superficial layers and leave the deeper diseased portions unaffected; and it is futile to attempt the cure of carious joints by simple injections of iodoform in emulsion.

In regard to the possibility of local recurrence of the disease under iodoform dressing, such a possibility has never been denied by the author. Cases of this kind are likely to occur in individuals with decided morbid diathesis, more frequently, however, in those cases in which small portions of diseased tissue have been unintentionally left behind in the wound, and the statement previously made can here be most emphatically repeated: "That the remaining of fungoid masses in the soft parts under the iodoform dressing does not predispose to a recurrence of the process; the remaining of fungoid disease of bone is, however, of the greatest importance in this particular."

3. It is easy to understand the resorptive properties of iodoform when we remember that by its decomposition iodine is set free in a nascent state in the tissues, and iodoform, as already remarked, has the advantage of not irritating the tissues and of not leading to any general emaciation. Thus the author was treating at the time of the writing of the article a case of hypertrophic goitre by parenchymatous injection of fifty per cent. emulsion of glycerine; the patient supported the injection very well, there was no sign of any reaction as frequently happens with similar injections of tincture of iodine, and there was not the tendency to the formation of indurated nodules as so frequently following other iodine preparations.

4. The anodyne properties of the drug are of the very highest value in surgery; to be able to cause the rapid and certain healing of a wound is certainly a great accomplishment; to do so painlessly is to increase very much the value of the service. As previously mentioned, the progress of wounds under the iodoform dressing is usually a painless one; the patient recovers from the anæsthetic without feeling any pain, nor does he complain of it subsequently. Venereal sores and burns very soon become painless after the use of iodoform.

In resuming now we find that

1. Iodoform applied locally is a specific remedy for local tuberculous processes; it destroys fungous granulations, and as long as it remains in contact with the wound prevents the new formation of such fungosities. Its action is more reliable and stronger if it be in direct contact with the granulation; it is less efficient, but still demonstrable when affecting portions of tissue lying at some distance.

2. Where it is possible to do so, the fungoid granulations are to be removed by scraping or otherwise before the use of the iodoform; it is absolutely necessary to do this in caries fungosa and to reach the limit of healthy bone. When all fungoid masses have been removed from a wound then the iodoform usually converts the secretion from a purulent to a serous fluid, provided no source of irritation exist.

3. For wounds of all kinds iodoform is the safest antiseptic, as it remains a long time in contact with the wound owing to its poor solubility, and thus exercises a continuous action.

4. Iodoform applied locally in moderate quantities is harmless, although it is resorbed in part and excreted by the kidneys.

5. The first influence on wounds is that of an anodyne, later on it favors the development of granulatious and *invariably* prevents septic processes in the wound.

6. The course of the wounds is usually unattended by fever; sometimes in the first few days the evening temperature is slightly increased, though the septic character is entirely absent.

7. The iodoform powder does not prevent adhesion and union by first intention if used in small quantities.

8. With the iodoform dressing, as with all others, provision must be made for an easy escape of the secretions. The saturation of the dressing does not necessitate a change of the dressing; a rise in the temperature, pointing to retention of secretion, is, however, an urgent indication for its renewal.

9. Erysipelas of the wound is very rare with iodoform dressing.

10. Iodoform is too powerful an antiseptic to require the use of other antiseptics; for cleansing of the wound therefore pure water is quite sufficient; as in other cases cleanliness of the wound and instruments and care in manipulation are to be strictly observed.

11. The iodoform dressing is the safest, cheapest, most lasting and most easily applied of all antiseptic dressing; the necessary materials are easily obtained, and iodoform powder and iodoform gauze may be kept for years without losing any of their efficiency.

12. Iodoform allows of the application of an antiseptic dressing in the mouth, in or near the rectum and bladder after surgical operations, in which previously a strictly antiseptic dressing was impossible.

In conclusion it is only fair to ask that not too much be claimed for the remedy, for it cannot accomplish all things. What we can expect from any antiseptic and antituberculous remedy, that we have a right to ask from iodoform and we will find that iodoform surpasses all other agents which have been thus far used in surgery for this purpose. Above all we must not forget the labors of those men who have taught us to understand what "antiseptic" means and must pay to the names of Lister and Pasteur the high tribute which is their just due." J.E.

Artificial Anus in Rectal Cancer.—In the Society of Surgery of Paris M. Trélat raised the question of enterotomy for the treatment of cancers of the rectum, *apropos* of two patients upon whom he successfully practiced lumbar colotomy.

The indications for the operation are three: 1. The cancer should not be inaccessible; 2. The symptoms ought to be clearly defined; 3. The condition of the subject should be relatively good.

The operation, it is unnecessary to say is only palliative, and does not prevent the development of the cancer and ultimate death, but it reduces singularly its symptomatic expression, and often gives the patient a long lease on life which is not to be despised.

M. Pozzi confirmed the opinion of M. Trélat; he had operated under those conditions when the patient was literally dying. This subject survived the operation five months, returning to life and hope, not suffering anything to speak of, even being able to sit up and play the piano; he succumbed slowly and without pain by reason of the course of the cancer with which he was affected.

M. Després did not agree with his colleague; he believed in abstaining, and thought it always possible to relieve these patients without resorting to an operation; it is sufficient for this to introduce the finger and even the hand as high up in the rectum as possible and enlarge its lumen. Having had recourse to this coarse German procedure a number of times, he has given exit to fecal matter and gas in patients who had already vomited fecaloid matter; beforehand it is sufficient to give baths every day and prescribe from time to time a light purgative. In other cases the application of a blister on the abdomen is of equally great service. These means have always been sufficient for him, and he has never been obliged to resort to the operation advised by M. Trélat. As to the lancinating pains experienced by many patients, he did not believe they could be relieved by any operation; they are due to the cancer itself, and not to any phenomena of retention.

M. Verneuil, although a partisan of intervention, did not think that enterotomy was the only resource which the surgeon possessed. He thought linear perineal rectotomy much superior. He reserved enterotomy for the cases of cancer inaccessible to such treatment. Then even the operation is not applicable to all cases, it is necessary that the condition of the patient permit it, for it must not be forgotten that these operations on patients arrived at the state of cachexia are often followed by death. He reproached the custom of English surgeons who do not hesitate even when the patient is at the last extremity.

Another indication results, in the opinion of the professor of "la Pitié," from the retention or non-retention of fecal matter. He believed that the operation will not often be useful where there is no retention; it is only in the opposite circumstances where the intervention of the surgeon will render the patient a signal service, and in which the pain will almost instantly disappear.

So it is seen in this question there are three predominating opinions, any one of which it is impossible to set aside without being exclusive: 1st. Abstention with palliatives; 2d. Linear rectotomy; 3d. Enterotomy. The last method seems to have the greatest number of partisans.

Another question is raised relative to enterotomy: Ought the inguinal anus be chosen (the easiest to make) or the lumbar anus?

M. Verneuil, without entirely objecting to the lumbar anus, declared himself freely as in favor of the inguinal anus, especially because of the ease with which it is made.

MM. Trélat and Tillaux, partisans of the lumbar anus, brought to the Society of Surgery patients operated upon by them, in these conditions, and on whom the results of the operations were easily appreciable.

The patient of M. Tillaux, a young man aged twenty, who being affected with rectitis with stricture, was operated on unsuccessfully a dozen times in the marine hospital. This patient came under the care of M. Tillaux in 1879, who at once intended to practice upon him the operation of Amussat, but the adhesions in the rectum rendered this operation impossible. He then decided to make a lumbar anus. "It is important," says M. Tillaux, "in this operation to make a vertical incision, to seek the external border of the sacro-lumbar mass, and especially to avoid mistaking the quadratus lumborum for the muscular tunic of the intestine." The results of this operation, practiced three years ago, have been as satisfactory as possible.

The patient, a very short time after wanted to defecate, and unless the stools are absolutely liquid, he had plenty of time to take proper precautions.

It is necessary that the position of the lumbar anus be in every respect convenient, and especially as regards the generative function. M. Tillaux called to notice the fact, that when the patient is observed from in front, no one would suspect the infirmity of which he is a victim.

The patient presented by M. Trélat was operated on because of a malignant tumor of the rectum the size of a fist, which was in every way inaccessible. This woman presented in the lumbar region a small anus which, in a functional point of view leaves nothing to be desired. The patient considering herself cured left the care of M. Trélat a few days ago.

The first case that he operated upon was twenty-three years of age, already cachectic, and succumbed at the end of six months to the progress of his disease and its generalization in the liver, having been given three months free from pain and probably four or five months of life. This patient never suffered on account of the artificial anus nor from irregularity of stools.

M. Trélat presented specimens collected from his autopsy and called attention to the enlargement of the artificial anus, probably dependent on general emaciation.

Lumbar colotomy, says M. Trélat, is superior to inguinal enterotomy because it is extra-peritoneal, and because the part involved is far enough away from the stomach to permit complete digestion and regularity of the stools.

In the mode of operating M. Trélat insisted on a choice of the line of incision and the suture of the intestine.

Line of Incision.—The incision should be made on a line extending from the anterior superior iliac spine to the angle formed by the junction of the twelfth rib and the border of the sacro-lumbalis. The middle of the incision is marked by a line crossing this line running parallel with the external border of the sacro-lumbar mass, starting two centimetres behind the middle of the iliac crest. The skin incision ought to be eight to ten centimetres in length.

Suture of the Intestine.—Having passed through the different strata of the region the colon is met with, which is recognized it full by the nature of its contents and if it is empty by its whitish color, which contrasts with the yellow of fat and the red of muscle, and by its fibrous appearance. The intestine having been recognized, it is necessary to make the incision according to the rules laid down by Nélaton, precepts which M. Trélat has established with new precision:

1st. Pass two sutures, thirty-five millimetres apart, through all the tunics to fasten the colon to the wound.

2d. Penetrate with the needle perpendicularly into the intestine at an equal distance from the two borders of the external wound, bring it out a few millimetres distant and pass it through the thickness of the lips of the wound from within outward; then repeat the same manœuvre with another needle for the opposite border of the wound, penetrating the intestine by the same hole as at first. Three similar points, situated six millimetres apart, will be sufficient.

3d. Drawing upon the threads inversely upon each side the holes will be made to gape slightly; then make an incision three centimetres long between the stitches; all that remains to be done is to tighten the threads to draw the intestine up to the skin. In this way the issue of fecal matter into the wound is prevented.

4. The cutaneous wound is greater than the artificial anus.

M. Trélat advises that no attempt be made to unite it on account of the inevitable contact of fecal matter, but to put one suture only in the neighborhood of the intestine to prevent it pulling too much.

The dressing consists in antiseptic cotton steeped in a weak carbolic solution to be frequently renewed. The cotton is covered with a linen compress and a bandage.—*Le Médecin Practicien.* C.E.C.

A CASE OF REMARKABLE PISTOL WOUNDS.—By Edmund V. Joye, M. D., Antioch, California. December 30th, 1881, I was called across the San Joaquin river to Sherman Island to see a man who was said to have shot himself. On arriving at the Island I found a man named Charles R. lying on the ground with his head resting on a friend's knee, and was told by those present that Charley had fired four shots into his breast. On examination, discovered two bullet holes, one just above the left nipple, and one a little to the right of the nipple. The nipple and surrounding skin were very much blackened and burned by powder. As he was in a sinking condition I made no futher examination, but gave him a large dose of morphia in whisky, and requested his immediate removal to Antioch. This was quickly accomplished. After being placed in bed and another dose of morphia in whisky administered, my partner, Dr. M. C. Parkison, also present, we proceeded to make a more thorough examination and found the two wounds above and to the side of the left nipple as before described, about one inch apart, and the skin of the parts much discolored and charred. On turning the patient over we saw no wounds upon his back, but in passing the hand over the region of the scapula, felt two balls lying under the skin and fascia, one about three inches below and behind the left armpit, and one at the lower edge of the scapula, two inches to the left of the spine.

The patient reviving a little, said he had fired four shots, and had placed the muzzle of the pistol to his naked breast each time. The rib beneath the wounds was intact, no indications of fracture nor any symptoms of injury to the lung or other organs existing. Not deeming it advisable to probe or extract the balls at this time, and finding no trace of the other two balls said to have been fired, the wounds in the breast were washed and dressed with dry lint, and morphia and whisky given every three hours. He was very much prostrated, having lost considerable blood on his way to town. Rested comparatively well during the night. On the morning of the 31st he complained only of a pain or soreness around the external wounds. Morphia and whisky discontinued and teaspoonful doses of fluid extract of Jamaica dogwood ordered when restless. The wounds healed kindly and he gained strength rapidly, and there was no evidence whatever of the lung being injured. The respiratory murmur clear and distinct at all times.

January 3d, he stated he was able to stand the cutting out of the balls without chloroform. Accordingly, assisted by my partner, I cut down upon and extracted from the points mentioned two large conical balls. After extracting the one nearest the armpit, I placed the probe into the incision, and it passed forward in the direction of the external wounds showing the tract of the balls to be around the left side of the body, superficial and external to the cavity of the chest; and that both balls must have followed the same course, one going further around than the other. Two days later the patient was walking about the room and has made an excellent reccovery. The shooting was done with suicidal intent. The pistol used was a bull-dog 42 caliber.

The remarkable feature of the deflection of the balls by the rib, without the rib sustaining any injury; and still more remarkable that the balls so large in themselves and driven from so powerful a weapon held in contact with the body, did not go entirely through the cavity of the chest and out at the back, breaking down every obstacle. That one ball under the circumstances should be deflected and driven around the side is strange; but that two entering the body at very nearly the same spot, should be diverted in their course and follow the same track in a given direction, is something truly astonishing. The wounds were seemingly straight, not inclined either to the right or left. The subject is about 35 years of age, of a robust constitution, temperate in his habits, and has followed the sea from the age of 13 to the present time.—*Pacific Med. and Sur. Jour.*

SECTION OF THE SPINAL ACCESSORY NERVE.—At a recent meeting of the Acad. de Médecine, M. Tillaux presented the interesting clinical history of a patient in his service. She first entered the service of M. Desnos, suffering from a species of spasmodic torticollis, the head being twisted toward the right shoulder; this phenomenon was accompanied by considerable pain about the occipito-vertebral articulation.

The general opinion was that there existed functional spasms of the sterno-mastoid muscle. M. Vulpian advised electricity, and this, with metallo-therapy, the bromide and iodide of potassium and other remedies, were employed without any amelioration in the condition of the patient, who desired an operation to put an end to her sufferings.

It was at this period that she entered M. Tillaux's service at the Beaujon Hospital; after mature consideration of the case he divided the inner portion of the sterno mastiod muscle, very near its insertion to the sternum. This operation procured no relief; the spasms were as intense as before for eighteen months afterwards.

In the opinion of M. Vulpian, who first examined the case, the cause of these spasms lay in the spinal accessory nerve, and as M. Tillaux was of this opinion also, he decided on excising or dividing the nerve. An incision was made, parallel with the posterior border of the sterno-mastoid muscle and between two lines drawn horizontally, the upper from the angle of the jaw, and the lower from the superior border of the thyroid cartilage. The nerve was divided and the wound rapidly cicatrized under antiseptic treatment.

Considerable benefit was obtained from the operation, the face was still drawn toward the right shoulder, but the movement was not so spasmodic; the patient could control and even resist it.

The spinal accessory nerve has been studied from a physiological point of view by Claude Bernard, who considered it as essentially the nerve of phonation. In the present case M. Tillaux's patient has not manifested any change in the voice, or any defect in articulation.—*Med. and Surg. Reporter.*

COMPOUND DISLOCATION OF THE ANKLE.—At a recent meeting of the Surgical Society of Ireland (*Medical Press and Circular*), Mr. Thornley Stoker exhibted a specimen of compound dislocation of the ankle, which was so severe as to require amputation. The dislocation was of the most usual form, that of the foot inward and of the two bones of the leg outward. In addition to the dislocation and the laceration of the soft parts, the malleolus of the fibula had been fractured transversely on a level with the transverse surface of the tibia, while the malleolus of the tibia was similarly broken off from its attachment, and remained connected in its usual position, on the inside of the foot. While the fracture of the fibula was quite transverse, that of the tibia extended upward and inward. The injury was caused by a kink of chain catching round the man's leg, while the anchor was being weighed.—*Med. and Surg. Reporter.*

A new Woman's Medical College has been organized at Baltimore, Md. All the seven professors thus far appointed are men. It will begin operations October, 1882.

OPHTHALMOLOGY—OTOLOGY.

EXTRACTS FROM ONE OF THE LATEST BOOKS ON THE EYE.—Speaking of the treatment of ophthalmia neonatorum the author says, "the atropine has an antiphlogistic effect upon the inflamed surface, and also, by dilating the pupil, relieves the tension of the eyeball.

Inasmuch as atropine irritates the conjunctiva, paralyses vessel walls and does not diminish intra-ocular tension (we hardly believe the author means that *dilating* the pupil relieves tension) we fail to see its value in the above disease. However, we are prepared for almost anything when we read . . . .

"You know when a mucous surface with lamellated epithelium, like the urethra or conjunctiva, is inoculated with pus, a process of proliferation of epithelium ensues. *The epithelium is transformed into pus-cells, which are thrown off, and it is rapidly reproduced to be again turned into pus,*" etc. (italic ours).

Treatment for catarrhal conjunctivitis.—

"In mild attacks the infusion of anthemidis (sic) nobilis or collyrium sulphatis zinci is sufficient. In severe forms of inflammation I generally order a bichloride[1] or borax lotion, mild aperients, foot-bath at night, light diet and pure air."

[1] ℞.	Hydrargyri bichloridi,	gr. iv.
	Vini belladonnæ,	ʒ iii.
	Aquæ lauro-cerasi,	ʒ iii.
	Aquæ rosæ,	ʒ ii.
	Aquæ puræ,	ad ℥ iv.

Solve et cola per chartam. Bathe the eye in a tablespoonful, in a little warm water, three times a day.

This prescription is not as extensive as some we have seen. For illustration we will take one from Bartisch (an exceedingly rare book), whose personal copy we happen to own, published in 1583:

℞.	Wegerich kraut,	2	lot.
	Ringel blumen,	2	
	Liebestöckel kraut,	2	
	Rauten bletter,	2	
	Salbey bletter,	2	
	Schöl kraut,	2	
	Fenchel samen,	2	
	Schlöhen safft,	2	
	Sarcocollæ,	2	
	Douciæ,	2	
	Salmiac,	2	
	Aloes epaticæ,	2	
	Camphor,	1	quint
	Saffran.	1	

From this it will be seen that we moderns stand not the slightest show for distinction when we indulge in materia medica feats.

The author's remarks on the treatment of trachoma are as follows:

"In the first stage of the attack warm poultices, as recommended by von Græfe, are of great use, because they promote suppuration, and the discharge of the impurities which cause and propagate the disease; but when the affection is one of some standing and confirmed, when the granulations are freely embedded in the conjunctiva of the eyelid, and friction has caused corneal opacity, softening, and pannus, many plans of treatment have been resorted to. Sulphate of copper used to be, and I suppose is still considered, the standard remedy for granulations, for in every case of Egyptian opththalmia, out comes the bluestone, mechanically as it were.

"I have seen patients rubbed with bluestone for eight or ten years, until no trace of transparent cornea was left; and I have never seen any satisfactory result accruing from the use of argentum nitras, or any other caustic."

His treatment consists of—

(1) Scarification.
(2) Syrup of tannin.
(3) Friction.
(4) Solution of atropine.

The author does not deign to mention eserine in connection with the treatment of any condition of the eye, not even in glaucoma. We can, however, readily understand this, since he believes that atropine by *dilating the pupil*, reduces tension.

We presume, because atropine dilates blood-vessels, he uses it in conjunctival inflammations to diminish the secretion.—Wolfe, Diseases and Injuries of the Eye, Glasgow, 1882. W.W.S.

ACUTE CONGESTION OF THE UPPER PORTION OF THE TYMPANIC CAVITY AND MEMBRANA TYMPANI.—By Clarence J. Blake, M. D., Boston.

Among the cases classed under the heading of acute inflammation of the middle ear, we find a certain portion in which the advent of the symptoms, both subjective and objective, and their character, are sufficiently distinctive to justify an intimate investigation of their etiology, and an especial classification of the condition which they represent.

Leaving the general question of the causation of the condition indicated in the title lines of this paper for the present in abeyance, I desire to draw attention for the purpose of eliciting communications on this subject from other observers, to this form of inception of acute inflammation of the middle ear.

With the increasing confidence on the part of the profession at large, and the laity as well, in the possibilities of diagnosis and treatment of diseases of the ear, it becomes more and more the good fortune of the specialist to see acute cases in their earliest stages, and to have the desirable opportunity of administering the ounce of prevention.

Observations similar to those here recorded are undoubtedly sufficiently familiar to aural surgeons, and a more accurate differentiation of the early symptoms of middle ear trouble will show that a beginning of the inflammatory process by a localized congestion, beginning in the upper portion, grossly speaking, of the tympanic cavity, as contracted with its inception by a more general congestion of the lining of the middle ear, is by no means uncommon.

Among the distinguishing subjective sypstoms may be mentioned, firstly, the character of the pain, which is usually very severe, paroxysmal, and makes its first appearance without, as a rule, the preceding sensations of fullness, dullness, and vague discomfort, which accompany the more general congestion of the tympani. With the advent of the pain in the ear, however, there is usually a sensation of extreme tension in that organ, and, in addition to the paroxysmal pain in the ear, a constant pain, more or less acute, referred to the corresponding side of the head and extending toward the vertex. Secondly, during the first part of the attack, there is but little tinnitus aurium, and the hearing remains comparatively unimpaired.

As would be expected, also, the temperature does not rise in the earlier stage as it would in the case of a less circumscribed congestion.

Objectively, the membrana tympani is found, except for exchanges which have occurred as the result of previous affections of the ear, fairly transparent but slightly congested, and evidencing no departure from its normal appearance either in color or in contour, except in the two following respects: 1. An intense congestion at its upper portion, serous exudation into the tissues in this neighborhood, and a projection outward of Shrapnell's membrane from the same cause. 2. Bulging outward of the membrana tympani as a whole, as if distended by serous accumulation in the tympanic cavity.

Paracentesis of the lower portion of the membrana tympani at this stage, and under these conditions, gives vent to air only, which escapes with a sharp hiss if the opening made is small, and allows the extended membrane to resume its normal contour.

Paracentesis of Shrapnell's membrane, or acupuncture of the swollen tissue in its vicinity, gives vent to a serous or sero-sanguinolent fluid.

The symptoms above detailed belong to the earliest stage. If the trouble progress without spontaneous resolution, certainly within twenty-four hours, and often within three or four hours, according to the severity of the attack, the tympanic mucous membrane, as seen through the membrana tympani, is intensely congested, and an opening made in the lower quadrant, first giving vent to air, soon serves for the escape of a copious serous discharge.

It is noticeable, also, that the paroxysmal pain does not subside with paracentesis of the membrana tympani, or of Shrapnell's membrane, but continues as a rule, until a continued copious serous discharge has in a measure relieved the tension of the distended vessels.

Of cases of this kind which have come under my observation in the primary stage, the majority have occurred in children, during measles, coincidently with the appearance or at the height of the facial eruption, and in adult males of vigorous habit after especial exposure to cold in severe weather; of the latter, several occurred when there had been exposure of the face only to a keen wind, and when there was no evidence of a condition of the naso-pharyngeal mucous membrane, which would imply extension of trouble to the middle ear.

This fact, coupled with the observation made in the cases of measles, that the aural complication occurring during the facial eruption differed materially in its inceptive symptoms from the aural trouble occurring in the earlier stage of the measles, in connection with the irritation of the naso-pharyngeal mucous membrane, at least permits the inference that the acute congestion of of the upper portion of the tympanic cavity in these cases is of reflex origin, the local exhibition of which is an innervation of the vaso-motor tract controlling the vessels distributed to the anterior and superior portion of the tympanic cavity from the direct tympanic branch of the carotid.

The bulging outward of the membrana tympani below, in consequence of the compression of the air in the tympanic cavity, is a symptom which may be considered as supporting this hypothsis; the tympanic branch of the carotid is distributed largely in the anterior portion of the tympanic cavity, about the inner end of the Eustachian tube, and the swelling, from congestion, of the mucous membrane would both close this means of exit and, by diminishing the capacity of the tympanic cavity, compress the air within it.

That the increased intra-tympanic pneumatic pressure is an insignificant factor in the causation of pain is evidenced by the fact that neither the opening of the Eustachian tube, nor paracentesis of the lower portion of the membrana tympani gives measurable relief, and that this pressure serves to control the exudation of serum is shown by the speed with which serous exudation into the tympanic cavity follows the paracentesis in the majority of cases in which this is early done.

As would be expected, puncture of Shrapnell's membrane gives more relief than any other operative procedure. After paracentesis dry wicks of absorbent cotton should be applied and changed as often as they become moist at the outer end; beyond this the local treatment may advantageously be confined to the application of leeches and dry warmth, free leeching in a robust subject often being followed by considerable relief from pain.

Internally, the bromide of potassium would of course be indicated, and when not contra-indicated may well be given in large doses repeatedly.—*Am. Jour. of Otology.*

OBSTETRICS.

THE ACTION OF PUERPERAL SECRETION ON THE ANIMAL STRUCTURE.—Dr. Fred. Karewski of Berlin, has recently published (*Zeitsch. f. Geb. u. Gyn.* vii., 2.), a review of the investigations that have been made into the action of puerperal discharges upon the organisms. His review is thoroughly unprejudiced and highly interesting, and excludes the experiments made by Scherer, (*Chem. u. mikrosk. Untersuch. zur Pathol. Heidelberg*, 1843), then by Rokitansky, Jr., (*Wein. Med. Jahrb.*, 1874: Investigations of the microscopic composition of lochia), and lastly by Kehrer (Investigation of the inflammatory and fever-producing action of the lochia; *Beilage zur. exper, und verpleich Geburtshunde*, Nov. 4, 1875).

In contrast to his predecessors, he uses the lochial discharge which he employs for injection in an antiseptic manner, as being highly important as well as free from the objections heretofore raised, and he has, besides the lochia, injected various substances. This author is also in advance of those who have preceded him in regard to microscopical investigation of the lochia, in that he was in a more favorable position, with the aid of the excellent method of Koch, and especially with the aid of Ehrlich's dry method for discovering the presence of bacteria, which he found, in harmony with Rokitansky, in the secretion from healthy women as well as from those in the puerperal state. Although the bacteria presented a great variety of shapes and sizes, they were for the most part spheroidal in form and of a definite size. No constant difference between the bacteria from normal and septic lochia could be claimed. There is nothing in the odor nor in the number of bacteria to distinguish the puerperal flow. In one case of *foudroyant* sepsis remarkably few bacteria were found in the lochia, while in four otherwise healthy patients, they were especially numerous.

As a result of experiments, Kehrer found that the lochia, whether purulent or simply inflammatory, have this factor in common: that those from the earlier days of the puerperal period and from healthy puerperal women possess infectious properties as well as those from the later days and from septic puerperal patients; Karewski sought to estimate the weight of these facts. As a result of his experiments, which we will not give in detail here, he adduces these propositions:

1. All lochia, whether normal or septic are capable of producing in animals septicemic and ichoremic affections.

2. The virulence of the lochia corresponds with the stage of the puerperal period, and the severity of the puerperal symptoms in the patient.

3. The septicemic manifestations were due to the development of a spheroidal germ which occurred in the organs of all animals.

4. To the question, whence come these germs in the lochia, the author replies that they have origin in the air which enters the genital canal. Hausmann and Rokitansky have thus established the presence of bacteria in the vaginal secretion from gynecological patients and pregnant women. The increasing virulence of the bacteria is owing to the fact that they find in the secretion of the post partum uterus, a nourishing fluid. The author assumes that the bacteria may acquire especial virulence in the way that was pointed out by Buchner and Grawitz (a view which by the recent investigations of Koch and Sichtheim, is rendered tenable). Should the laceration of the genitals not granulate with the usual promptitude, or should the uterus not return to its natural size, the puerperal fever will be developed in many cases after a normal delivery; but this happens only exceptionally, under the unfavorable circumstances just named, or where especially virulent bacteria already discharged from the genital canal of another puerperal woman are conveyed to the patient. Notwithstanding the great variety of diseases which may be developed by inoculation, at one time assuming the form of septicemia, at another, that of ichoremia, the author is of the opinion that they all depend upon the action of one and the same micrococus, which produces one or the other form of disease, according to the length of time it lives. In conclusion, Karewski invites

more extended investigation of the lochia, as he is himself undecided on the question whether or not he has discovered in the constantly recurring spheroidal bacteria, the "micrococcus puerperalis."—*Deutsche Med.—Zeitung*, April 6.

IODOFORM IN PUERPERAL SEPTICÆMIA. — Maggioli says (in *Gazetti Med. di Roma*) that iodoform is easily tolerated and absorbed by the mucous membrane of the stomach and intestines. It is also very diffusible in the fluids and tissues of the animal economy, for we find it in the urine, the saliva, tears, perspiration, milk, nasal mucus, menstrual fluid, expired air, etc. Besides its great diffusibility, it remains in the blood and tissues, for we get a marked reaction of *iodine* in the urine, two, three or four days after the last dose has been administered (Moleschotti, Rhigini). Once absorbed into the blood and tissues, it breaks up and sets free its iodine in the nascent state, which is exceptionally powerful and active. Does this iodine circulate in contact with the tissues and cells simply dissolved with the fat, or combined with the albumen and converted into the albuminate of iodine, or both at the same time? This question is not yet solved. Iodoform, administered in quantities of grains xxx to xlv and divided into small doses of one-third to three-fourths of a grain at a time, never produces the bad results of Högges, Binz, Moleschotti, or Nothnagel. Of the iodine preparations, iodoform contains more iodine than all the others (nine-tenths by weight), and we cannot think it hurtful to the human economy in such doses. In therapy, this agent is accepted and used by all surgeons as the best topical and alterative remedy for wounds and infected ulcers. Now, if it is such an excellent *local* antiseptic, why should it not be used internally against the septic virus which has invaded the blood and tissues, and tends to reproduction and multiplication? The great diffusibility of iodoform in the organism, and the possibility of large doses on the one hand and its long continuance in the system on the other, are extremely favorable conditions, and leave much to be hoped of its value in puerperal sepsis.

I have only seen and studied four cases. Prof. Moleschotti has reported two others. In all six cases, there was a grave puerperal state and pyosepticæmia. As regards my four cases, iodoform was used internally, and so far as I can see, the recoveries were due to that agent. In the other two cases, it was used epidermically in the form of a pomade, to relieve the peritoneal pain, and to dissolve the exudation in the vicinity of the uterus. Both were cases of *infected puerperal para- and peri-metritis.*) Certainly, six cases cannot establish a position so high as I take regarding iodoform. But it is to be hoped that others will try it, and make the statistics more numerous and conclusive. I am convinced that it is destined to assume great importance in the treatment of septic maladies.

I am glad to know that several physicians have employed it with satisfaction in the form of suppositories, unguents and powders in the treatment of lacerations and wounds, whether septic or healthy, of the internal genitals and vaginal portions of the neck of the uterus. Dr. Lupó, who has obtained better effects by its internal use in infected wounds than by any other agent, believes that it will replace carbolic acid in the preventive treatment of sepsis. It is my opinion, then, that iodoform is most efficacious against septic virus already absorbed, by neutralizing its noxious properties, arresting it in its invasion, and, in fine, by aiding the organs and infected and inflamed tissues to overcome it and return to their normal state. I use the following formula for the internal administration of iodoform:

℞. Iodoform (pure), gr. $\frac{1}{3}$–$\frac{3}{4}$
Extract lactuci sativæ, gr. $\frac{1}{3}$
(Or Ext. nucis vomicæ, gr. $\frac{1}{120}$)

Mix and sig: Make pil. No. I, or multiply by 48, and make pil. No. xlviii.

One pill to be given every hour for the first three days of the puerperal fever—containing from $\frac{1}{3}$ to $\frac{3}{4}$ grain of iodoform, as the case requires—to diminish the fever and arrest the progress of the disease: then at longer intervals until complete recovery takes place. Or, after recovery, it may be well to continne its use in minimum doses for five to seven days. The extract of lettuce or nux vomica may be replaced by any desired agent not incompatible with iodoform. The formula of Dr. Moleschotti for external use is:

℞. Iodoform (pure), gr. xv
Melted lard, ℥ iv
(Or Elastic collodion, ℥ iv)
Add to disguise the odor—
Essence of peppermint,
Essence of orange flowers, āā gtt. x

M., and set away in a small cup well closed. Apply with the finger or a brush, two or three times a day, to the hypogastric region. Prof. Moleschotti has found in cummin a means of obviating the disagreeable eructations caused by the internal administration of the agent, as well as of disguising the smell. Add grs. iss to every grs. xv of iodoform.—*Virginia Med. Monthly.*

ON THE RELATION BETWEEN STERILITY AND THE EPOCH OF PREDILECTION FOR FECUNDATION. Cohnstein, of Heidelberg, is of opinion that every woman is, at different intervals, more or less favorable for fecundation. This he calls the period of predilection. The following observation confirms his view:

A woman, aged 30, in good health, and of healthy parentage, gave birth, some years previously to consulting Cohnstein, to a child before term. She had been since sterile. Sterility was not caused by the state of the organs of generation. Cohnstein calculated that if the child had gone to full time it would have been born about the middle of February; consequently conception had taken place in the preceding year, in May. This period might be the epoch of predilection in this woman.

He communicated his views to wife and husband, the result being that in May the menses were arrested, and nine months after the woman gave birth to a healthy, well developed child. This incident is worth the attention of accoucheurs. It is easy to determine its value.—*Med. Press and Circular.*

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Cincinnati, May 6th, 1882.

Miscellany.

CONDITIONS FAVORING THE DEVELOPMENT OF MICROCOCCI IN THE BLOOD-VESSELS.—Prof. Wassilieff of St. Petersburg is the author of an article upon conditions which favor the development of colonies of micrococci in the blood-vessels. In his experiment he employed frogs. Upon these he caused an ulcerative process to be established. The secretion from these surfaces be injected successively from one animal to another until it finally became capable of developing a sort of septic infection. The characteristic symptoms of this infectious disease are:—1. An acute and uniformly fatal course. 2. The presence of bacteria in the blood, which are to be observed, however, only a short time before the death of the animal. 3. The development of echymoses in various organs and tissues. In the body of frogs killed by this disease there always occurs immediately after death, a development of micro-organisms in the blood vessels, attaining its maximum in the skin. The blood and various other fluids of these infected frogs if injected subcutaneously into the lymph-channels of healthy animals produced in them the same disease with precisely similar symptoms.

One frog was killed before the bacteria had developed in the blood; and in the vessels of the skin of such frogs no micrococci were found; or they existed only in a circumscribed area. In the vessels of frogs that had died free from septicemia, there was never found anywhere any trace of such colonies; yet there must not have been in these any loss of substance before death. Were such the case there could be seen here also after death a development of micrococci in the vessels of the skin, which, in no way differed, morphologically from the similar organisms found in infected frogs. Such colonies were found not simply in the immediate vicinity of the ulcer, but also in portions of the skin some distance from it. Futher, the colonies of micrococci were never found in the blood-vessels during life. But if there occur in any portion of the skin an obstruction to the flow of blood, these colonies of micrococci will be developed, (but only secondarily) even during the life of the animal.

The author also comes to the following conclusions: When in an animal organism during its functional life, in the côurse of a general or local disease, conditions arise which promote the development of micro-organisms in the organs affected, and which aid in the passage of these bacteria and micrococci into the blood-current, then are these minute organisms in a condition to develop colonies; but first the death of the organ or set of organs affected is requisite. We have also found it, in every case which we observed the colonization of micrococci and bacteria, a secondary manifestion.—*Deutsche Med. Zeit.*, March 9, 1882.

THE ACTION OF HEAT UPON SEPTIC FLUIDS.—M. Charles Richet, at the meeting of the Paris Société de Biologie, March 11, read a paper by Dr. Sebedeff of St. Petersburg, on the action of heat and drying, upon septic fluids and lower organisms.

The following are the leading conclusions expressed:

1. By boiling a sero- sanguinolent fluid is partially coagulated; at the same time, the virulent principle is precipitated with the coagulum. The transparent, colorless serous fluid that is thus left contains almost no micrococci and is, in fact, harmless, while the coagulum retains all the virulence possessed by the liquid before boiling. Five guinea-pigs inoculated with the coagulum thus produced all died, in from sixty to seventy-two hours, while two others inoculated with the clear serous fluid were unharmed by it.

2. The septic fluid is placed in a balloon which is then hermetically sealed in an atmosphere much greater in density than the liquid itself. The balloon is placed in a heating chamber at a temperature of 38° to 40° C. After forty-eight hours, the liquid completely lost its virulence. Another portion of the same fluid treated in precisely the same way, but subjected to a tem-

perature of 12° to 15° C., retained its virulence for five hours. In regard to the lower organisms; the former of these fluids just referred to, which, by the way lost its red color and assumed a black, they presented a changed appearance; that is to say, the bacteria presented themselves in enormous quantities, as brilliant bodies in a free state, in the manner of bacteria capitata. The white blood corpuscles, which exhibit a bright spot resembling the one in question, were entirely destroyed. In the second portion of the fluid, on the contrary, the bacteria multiplied almost entirely by division, of a kind having almost no sporules containing the brilliant spot, neither free brilliant bodies nor bacteria capitata. The white blood-corpuscles remained intact. Of ten inoculations made with the fluid raised to a temperature of 40°, we have not observed a single death, but three guinea-pigs inoculated with the same fluid heated only to 15°, all died.

3. The loss of virulence by the liquid is essentially due, not to the influence of the oxygen in the atmosphere, but to the temperature, under the action of which the liquid became modified to some extent in the evolution of a gas, as resulted also from the next experiments. The fluid is placed in glass tubes, from which all air is removed and the ends closely sealed. One of these tubes is then placed in the heating chamber and raised to a temperature of 38° to 40° C., the fluid in the other tube being raised only to 12° or 15°. It was then found that the former fluid (38°—40°) had entirely lost its virulence after forty-eight hours, whereas the latter (12°—15°) retained its virulent properties. In regard to the effects produced upon the bacteria, they were substantially those described above. For example, six experiments made under the same conditions, all gave the same results. That is to say, four animals inoculated with the fluid heated to 40° were uninjured, whilst two others inoculated with that raised to only 15° died.—*La Tribune Médicale*, March 19, 1882. J.M.F.

OSSEOUS TISSUE FORMED FROM TRANSPLANTED BONE-MARROW.—Prof. Bruns, of Tubingen, reports (*Arch für Clin. Chir.*, Bd. xxvi., Heft 3), the results of some experiments he has lately made on animals, with the object of determining whether portions of transplanted bone-marrow can give rise to the formation of deposits of true osseous structure. The Professor states that the animals best suited for experiments of this kind are young dogs. A portion of the shaft of the femur or tibia is resected, and the marrow contained in this resected fragment is removed in an unbroken cylinder. Portions of this cylinder are then inserted into fresh wounds on the breast or back of the same animal, either into the subcutaneous fat or in a superficial part of the muscular layer. The wounds are then carefully closed by means of sutures.

The following changes, it is stated, take place in each instance of successful transplantation. A diffuse swelling is at once formed, which speedily begins to diminish, and is replaced about the fourteenth day by a movable nodule, in which bony tissue already exists in scattered foci. By the twenty-fourth day, foci have usually amalgamated into a single piece of bone. Microscopical examination proves that the nodule, in its early stages, is composed of osteoid tissue, cartilage, and newly formed osseous tissue, and that the fully developed hard mass consists of true bone.

These experiments, Professor Bruns asserts, prove that bone-marrow, completely separated from its connection with bone, and transplanted under the skin of the same animal, at a remote part of the body, may give rise to the formation of bone and cartilage. The swelling at the seat of transplantation ossifies in part directly and in part by the conversion of cartilage and osteoid tissue into hard bone. The same process takes place in the formation of both the inner and outer callus after fracture; and it may be assumed that bone is formed from the medulla in a way similar to that in which it is formed from the inner surface of the periosteum. It is held by Professor Bruns that in each instance the osteogenetic function is due to the same elements, namely, to osteo-blast, which exist in the inner periosteal layer and are scattered amongst the elements of bone-marrow, particularly in young animals. Professor Waldeyer, of Strasburg, who has examined these specimens, agrees in the view of the part played by the osteoblast in the ossification of marrow, and is not disposed to admit any participation in this process of leucocytes of the marrow, wandering leucocytes from the blood, metamphosed fat cells, or newly formed spindle-shaped connective tissue cells.—*London Medical Record.*

TEST FOR SUGAR IN THE URINE.—Dr. L. S. Oppenheimer gives the following:

℞. Cupr. Sulph., cryst.......1 grain.
Glycerine, purif..........1 ounce. M.

One drachm of this mixture will reduce one grain of grape sugar in a caustic alkali. Two or three drops of the mixture are put in a test-tube, and one-half ounce liq. potass. added; the whole is then boiled, a few drops of urine added, and the whole is boiled again. If sugar is present it will be thrown down as the brownish-yellow cuprous oxide. The test is surer than Trommer's; it can be used to determine the quantity of sugar; albumen does not interfere with the reaction, and the mixture will keep indefinitely.—*Medical Brief.*

Bibliography.

TYNDALE ON "TREATMENT OF CONSUMPTION."[1]

Under the head of consumption the author places all progressively destructive processes of the respiratory organs which do not occur successively and rapidly in the train of acute inflammations of the lung.

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[1] Home and Climatic Treatment of Pulmonary Consumption on the Basis of Modern Doctrines. By J. Hilgard Tyndale, M. D., Member New York County Medical Society, etc., etc. New York: Bermingham & Co, 1882. Pp. 174. Price 50 cents.

In his chapter on general treatment the author states most positively that consumption is curable, in proof of which he points not only to the complete convalescence of undoubted phthisical subjects, but also to the results of autopsies where the shrunken contracted connective tissue processes point to the original seat of disease.

Treatment by inhalation, carried on by means of Waldenburg's apparatus and its various modifications, has, says the author, had its day, being only of value as limited pulmonary gymnastics, and is of value only to the non-infiltrated portion of the lung. Lung gymnastics proper should be carried on in the open air while walking or standing still, or in a well-ventilated room. Explicit rules for carrying on this exercise are given by the author.

The febrile condition usually present is a pure septic fever which is to be combatted by the best antiseptics. First among these rank quinine, salicylate of soda and the benzoates. When for any reason these are not well borne by the stomach, hypodermic injection of an antiseptic (a two per cent. solution of carbolic acid) is a rational method. Alcohol is an excellent food, but ought not be used in quantities which produce its baneful effects of dizzyness and of excitation, followed by depression. Washing out and injections of pulmonary cavities are recommended, and the different fluids employed are concisely stated.

One of the most valuable features of this little work is the advice given as to the choice of the climate most suitable to each individual case.

Obituary.

PHILIP KENNEDY, M.D.

At a meeting of a number of the physicians of Zanesville, Ohio, the following was adopted:

IN MEMORIAM.

Again have the medical profession of this vicinity been called to mourn the decease of one of its members in the death of Philip Kennedy, M.D., of Deavertown, Ohio, on the 26th of April.

Like a fragrant flower, he has budded, bloomed and fallen, and his virtues will remain so long as gentle lips give expression to tender sentiments.

He was no child of fortune, but was reared in adversity. He fought his way through life and achieved success. He worshipped at the shrine of honor and integrity, lived an unsullied life and died in the arms of Christianity.

To relieve the pangs of human suffering was his calling. The behests of his profession he fulfilled to the letter, not for the lucre, not for the fame, but that he might do good to his fellow men.

In the chamber of the sick his presence cheered the drooping heart, and his tender hand smoothed the ruffled pillow.

He never "turned aside" when passing by the poor, and friends attest his liberality in the exercise of his profession.

The community in which he lived will deeply regret his loss, and mourn for what they cannot replace.

He was an earnest supporter of medical organizations, and no weather was too inclement to prevent his presence at their deliberations.

He loved to meet his medical friends, and one of his last expressions was, could he only meet *these* once more, "he would die content."

The profession here will never forget the many delightful reunions held amid flowers and fruits, beneath the shadow of the evergreens, at his charming residence.

He held strong and liberal views in medical science, maintained them with originality and ingenuity, and many have felt keenly the sallies of his wit.

He was a true friend, unchanging as the compass, and firm as a rock. Once enrolled as such on his list, the name was seldom erased.

The records of our legislative halls attest the sharpness of his acumen, exactness in business, and his skill in debate.

Let us then cherish his noble qualities and honorable deeds, and render the last homage we may to our departed friend.

In sorrow we extend to the bereaved wife and stricken family, the firm hand of fellowship, and our expressions of heartfelt sympathy in this their overwhelming affliction.

"Life is short and time is fleeting,
  And our hearts, though strong and brave,
Still, like muffled drums are beating,
  Funeral marches to the grave."

Zanesville, Ohio, April 26th, 1882.

PROF. A. DUCHEK.

Prof. A. Duchek died at Vienna March 2d. Ducheck was born in Prague in 1824, where he received the title of Doctor of Medicine in 1848. While acting as clinical assistant under Riedel and Hammernik he gained such reputation through his scientific labors that he was appointed Professor to the clinic at Limberg in 1855. One year subsequent he went in like capacity to Heidelberg, and in 1858 was summoned to the Joseph Academy in Vienna. When Skoda retired in 1871 Duchek succeeded him at the University of Vienna. His most extensive work was his book on Pathology and Therapy, which, however, was never completed. Besides this he published a large number of treatises, the most valuable pertaining to diseases of the brain. The *Wiener Allgemeine Zeitung* says that the Vienna school loses in Duchek a faithful friend and adviser and a teacher occupying the highest rank; suffering humanity a benevolent, considerate and attentive physician, in whom they could place utmost confidence. His death was caused by valvular lesion of the heart. G.A.F.

Original Communications.

GENITAL REFLEXES IN THE MALE.

A Paper read before the Butler County Medical Society, April 6th, 1882.

By DAN MILLIKIN, M.D., Hamilton, O.

Mr. President and Gentlemen: I tell you nothing new when I tell you that there are "currents and counter-currents in medical belief." Fashions come and go in pathology and practice as in dress and behaviour. We ridicule each other for yielding so readily and so often to fitful and contrary winds of doctrine, but who is not blown about by them? Not I, to be sure; and while to-day, by appointment, I lead your debate to the subject of "Genital Reflexes in the Male," I freely admit that I follow the latest fashion in medicine.

The fashion in truth is not altogether new, but as the ladies say, it failed to "take" when first introduced. As long ago as 1870, Sayre, of New York, made his startling statements regarding an important group of nervous disorders reflected, as he declared, from the male genitalia. These statements did not at first attract the attention they deserved, and it is only within two or three years that the profession at large has awakened to the truth that the male genital system is as complicated and as irritable as that of the female. So important are its nervous connections and so responsive to peripheral irritation that I think it may be easily proven that abnormal stimuli operating upon certain parts of the male genito-urinary apparatus may strongly perturb all parts of that apparatus or may expend their irritation on the cerebro-spinal centres, or may even reach the sympathetic system.

A full review of the question would require me to discuss: (1) Vesical calculi, (2) contracted meatus urinarius, (3) enlarged prostate, (4) phimosis, (5) glandulo-preputial adhesions, and (6) functional excess in masturbation or venery.

Until I can forget the first important surgical operation I ever saw I cannot be unmindful of what profound nervous disorders may be caused by a small vesical calculus. The picture rises before me now, of a pretty little cotton-headed boy of about four or five years, who looked about the hospital amphitheatre with an idiotic leer, who had lost his speech, had lost control of his sphincters, had lost the use of his legs, and was racked by convulsions of an epileptiform character. There returns to me the thrilling interest with which I watched the extraction of the stone by lithotomy performed by Dr. C. S. Muscroft, sr., and the infinite pleasure with which I watched the boy's recovery from the profound nervous disturbances almost before the perineal wound had healed. If I never see another case I can declare that at the very beginning of my hospital course, I saw one case in which a small stone produced more or less disturbance of every part of the nervous organization from the brain to the toes.

If now I attempt to discourse upon the reflex disturbances caused by stricture of the urethra I know I will earn your resentment. You know too well the mental anxiety, the perturbed spinal centres, the irritable bladder or rectum that are often associated with even a moderately severe stricture. I cannot, however, pass so lightly over the discussion of the evil influence of a contracted meatus for it is an influence almost ignored by general practitioners. No cases are more easily helped nor more shamefully neglected. I recall to mind a very instructive case, marked by the symptoms of urethral stricture which had been sought for by a most excellent physician. Failing to find the stricture he put the patient on useless medical treatment. When my turn came to treat this wandering patient I found a meatus so small that it was not easy to introduce a bougie of very moderate size. He declined the proper cutting operation at my hands and was cured at last by slow dilatation of the meatus. His case was, however, quite trifling as compared with cases reported by Otis, of New York. He mentions one case of profound melancholia relieved time and again by the bougie and finally cured by operation. He treated also a medical student, a victim of *petit mal* who was cured only when a contracted meatus was by three operations, dilated and reconstructed.

Certainly the most distressing case of incontinence of urine I ever saw was a Hebrew, twenty-two years of age, who had unfortunately had the end of the glans penis snipped off by the circumciser on the eighth day of his existence, and the cicatrix had greatly contracted the meatus. The melancholy creature became such a chicken-hearted wreck that he would not permit any cutting operation nor even any thorough examination. He drifted about from one physician to another, becoming a sort of wandering Jew, until at last he was led to practice cautious dilatation himself, and was cured after a very long time.

Dr. J. William White, in Holmes' System of Surgery (American Edition, ii., 970), quotes approvingly the statement of Dr. C. H. Mastin, of Mobile, that the early exposure of the glans penis of Hebrew infants induces a deposit or hyperplasia of fibrous tissue in the exposed part, and that this leads to consecutive troubles,—contracted meatus and incontinence among the rest. The subject has been further pursued by the Drs. Mastin, father and son, in the Annals of Anatomy and Surgery, last year and this. I must confess to some doubt whether the mere exposure of the glans to friction is the cause of the mischievous hyperplasia. I have often insisted, as I do now, that the *rite* of circumcision is a very different thing from the *operation* of circumcision, and I think it fair to assume that the butchery connected with the religious rite is to blame for many of the cases of contracted meatus occurring among the Jews. It is not alone that circumcisers sometimes snip off the end of the penis, as in the case of the young man whom I have just mentioned, nor that some dashing "professional" nicks one of the corpora cavernosa, as occurred in Hamilton a few weeks ago: these are rare episodes. The most of the circumciser's mischief is referable to the slovenly practice of leaving a a great, grinning, raw surface between the skin and mucous membrane, for lack of sutures, and by strangulating the glans with strips of lint wound snugly about this raw surface to prevent hemorrhage. Congestion, inflammation, and the exudation of plastic matter are, it seems to me, directly encouraged by this clumsy mode of operating, and this, too, on the eighth day, when an organ so tender and so vascular may easily have its nutrition prevented.

I can best introduce the subject of phimosis by relating to you the case of a boy, five years old, who was brought to me in 1876 with a report that he had taken "barrels of medicine" to cure him of incontinence, but had wet the bed every night of his life. Through the day he was unable to hold his water more than an hour and a half. I had just then been reading a paper by Pooley, of Columbus, wherein it was urged upon physicians to seek for a stone in the bladder, *or from something wrong about the penis*, in every case of nocturnal incontinence in boys, and I am not sure that without the hint from this valuable paper I should not have written a foolish prescription for this patient. I found the little fellow to have an incredibly small penis with a prepuce long enough for three. I could not obtain a view of any part of the glans and indeed I presently found difficulty in passing a No. 8 Anel's probe. The next day I circumcised the boy, split the mucous membrane thoroughly, and stiched it to the skin. From that hour he never wet the bed again, and before a week had gone he was able to hold his water five hours in day time. A singular strained, anxious look left his countenance and gave way to an expression befitting a careless, growing boy of his years. I do not speak extravagantly when I declare that I am more proud of this little operation and its results than I would be if I had removed an ovarian tumor from some old woman, or had dissected out a cancerous pylorus where there was a certainty of recurrence.

Soon afterward a case came to me worse in all regards. The boy was older and if possible had been treated by more doctors. He urinated several times each night without waking; he was compelled to make efforts to urinate almost hourly through the day, and yet lost a few drops between each act of micturition involuntarily and unconsciously. The odor of putrescent urine was not confined to his bed or room but was carried about with him, and his clothing constantly bore a tell-tale stain. He had the same strained, anxious look as the boy I have just mentioned. He was excessively nervous, many of his movements suggesting chorea. Yielding my judgment to that of his former physician I did not circumcise the boy but completely split the long, narrow prepuce. The result was very unæsthetic, and would disgust the soul of a connoiseur in such matters, but the cure was complete before I had removed the last of my sutures. The miserable dwarfed organ was free to grow; the morbid chain of irritation was interrupted at its first link; and the rapid change in the boy's gait, behavior and character showed that irritation had once traveled far past th bladder.

An interesting feature of this case was the fac that the boy's deformity and his infirmity wer inherited. His father told me that he had neve flogged my little patient because he knew fro his own case how foolish and cruel was the application of the rod. He assured me that his ow character had been permanently altered by th punishment, the self-disgust, the shame, and th solitude which his infirmity inflicted upon hi in his tenderer years. Fortunately for him th phimosis was not a tight one and was overcome at puberty.

In the cases I have mentioned nothing has been said of adhesions. The infantile nervous system may and often does tolerate a long and tight prepuce but is exceedingly impatient of adhesions between the glans and the prepuce.

In December last, my aid was invoked for a bright little fellow of nine years. He had never failed to wet the bed for more than four or five consecutive nights, and that only in hot weather. In winter he urinated two or three times each night in his sleep. He could hold his water in the daytime, but had a special dispensation allowing him to slip out of school two or three times in each half day. He had been religiously put through a course of coaxing, a course of scolding, a course of medicine, and a course of sprouts. He was undersized and excessively "nervous. His gait in running could only be compared to that of a horse slightly "string-haltered." His finger-tips were so exquisitely sensitive that he shuddered whenever he touched anything smooth, his clothing, the sheets, or his desk at school. Upon receiving this impression he would thrust the finger-ends of one hand into his mouth, dragging the jaw downward, while the fingers of the other hand would be tightly clenched. His behavior was so irresistibly comical that his school-fellows, with the innate cruelty of their kind, were constantly mimicking him, and adding greatly to his wretchedness. I found here a large and roomy prepuce but with its mucous surface soldered to the glands at every point. The glans was also large, out of all just proportion to the small penis and the small boy. Under ether I tore the adhesions away with a small strabismus-hook,—the most elegant instrument the ingenuity of man could devise for the purpose,—and found a small quantity of smegma at the corona. Then, drawing the prepuce forward, I made a circumcision, taking away so much of the skin that, when skin and membrane were stitched together the latter would be drawn back from the raw denuded surface of the glans. The next morning the patient waked in the act of urinating. The next night and the next he had no accident. The fourth night he put us all to shame, but in the ensuing week he had no trouble, day nor night. After a month it was reported that he wet the bed about every tenth night, and he is doing much better now. At the time of the circumcision I noticed a small fiery red meatus but did not meddle with it, and I think I will never need to do so.

This case, more than all I have ever seen, taught me how irritable the penis may become by long imprisonment. At my first examination of the boy I found that gentle retraction of the foreskin produced reflex movements similar to those which accompany the ejaculation at the completion of the sexual act. Dr. Skinner will testify that when anæsthesia was so profound that no response was made to a touch on the cornea, the boy would squirm and groan at the lightest touch on the glans penis. We noted that he was in incessant motion while the adhesions were torn away, though he was comparatively quiet during the circumcision. He was kept so far anæsthetized that my needle passing through the skin did not arouse him, but if the end of my silk thread trailed over the glans, ever so lightly, he showed great distress. As a final experiment, when we were done with him, I found a single silk fibre, finer than a hair, hanging on my sponge. If, with this single fibre I touched the region about the meatus, there was an immediate response with arms and legs. The terminal nerve-filaments of this region long imprisoned and tormented, had succesfully revolted against the higher, controlling centres, and at a touch were able to alarm them with terrific shocks.

Incontinuence of urine, a certain choreic ataxia, and general nervous exhaustion are the most serious nervous affections I have observed dependent on phimosis or adhesions, or both. but it is now generally believed that profound disturbances may be caused by this form of peripheral irritation, in accordance with the acknowledged reflex disorders of the female. The *Current Journals* are loaded with information of such cases, more grave than any I have seen, but no worse than I am ready to believe.

Dr. D. B. Simmons of Tokohama, years ago, reports a boy of twelve years who had nocturnal epileptiform convulsions and was completely cured by tearing away a glandulo-preputial adhesion.

Dr. Francis H. Rankin of Newport, R. I. reports an instructive case of a boy twelve years of age who was subject to agonizing neuralgia with hysteria and, finally, visions of terror. Roosa found the ciliary muscle to be in a state of spasm, producing apparent myopia when atropine revealed actual hypermetropia. After a long course of medical treatment in Paris and New York, it was discovered that the boy's prepuce was long and narrow. He was circumcised, and his cure was prompt. (*N. Y. Med. Rec.* Jan. 7, 1882.)

In the *Alienist and Neuologist*, Oct., 1881, E. W. Saunders of St. Louis reports cases of boys who suffered agonizing, spasmodic, abdominal pain. The cases reported were cured by circumcision or the breaking up of adhesions as the cases required.

In November 1881 the possibility of the graver forms of nervous disease being caused by phimosis or adhesions was discussed by the New York Neurological Society. Sayre at this meeting not only promised to report upward of one hundred cases of partial paralysis cured by circumcision, but declared he had known of one case where a decided paralysis was caused by constricting the penis with a string. A case of a gentleman thirty-five years old was sent to him by Knapp who had found serious nervous derangements and commencing atrophy of the optic nerves. The man was circumcised on account of phimosis recovered from his nervous disease, and his optic atrophy came to a stand-still.

At a later meeting the subject came up again and, Sayre reported four striking cases of boys 18 months, 31 months, 3½ years and 6½ years old, in whom phimosis with adhesions existed along with partial paralysis and incoordination of locomotor muscles. These were all cured by the necessary operation. (*N. Y. Med. Rec.*, Nov, 19, and 24, 1881).

Dr. McGuire of Washington, Physician to the Department of Children, Central Dispensary, in one year examined the genitals of seventy-five boys brought to him on account of nervous disease. He says unqualifiedly that nearly every one had adhesions or phimosis, or both. There were six cases of incontinence of urine cured by circumcision and one not cured. There was partial paralysis of the legs in boys of one, two, three, six and thirteen years, (eleven boys in all). There was laryngismus stridulus in one three-year-old boy.

At the same meeting of the Society, Dr. Bruchard spoke of a young man sixteen years old, who was supposed to be paraplegic from organic disease of the spinal cord. Eminent men in France and America had agreed upon such a diagnosis. At length it was discovered that his penis was small and excessively tender, and that violent reflex symptoms were caused by a mere touch. The prepuce was long but not tight. Circumcision was performed; the paralysis disappeared in a week; and a strabismus, which no one had connected with his spinal disease, disappeared soon afterwards.

Dr. S. H. Hunt of Long Branch, N. J., has reported the case of a boy two and a half years old, with enormous anterior curvature of the spine from relaxation of certain muscles. The boy had two large herniæ also. Frequent urination and cystitis at length compelled an examination of the penis when there was discovered a long, tight prepuce and retained smegma. Circumcision restored the equilibrium of the dorsal muscles, and completely relieved the other symptoms.

Dr. Hunt has also reported the case of his own son, two and a half years old, who had frequent urination and chorea. Finally retention of urine and convulsions attracted attention to the genitals, when it was found that the little sufferer had a tight foreskin with a pin-hole aperture. Circumcision quickly relieved him of all his troublesome and dangerous symptoms. (*N. Y. Med. Rec.*, Feb. 18, 1882).

You will not fail to notice a disproportionate number of cases of hernia in the cases of phimosis and adhesions I have collected or reported. Four years ago, Mr. J. A. Kempe, Senior House Surgeon at Children's Hospital, Great Ormond Street, began to investigate she relation between these two deformities. (*London Lancet*, July, 1878. He examined the first fifty cases of phimosis that came under his observation and among them found thirty-one cases of rupture. The thirty-one boys were circumcised with benefit in every case, and, in five out of the thirty-one cases, the hernia never came down after the operation, So startling were these figures that Dr. Edward Swasey of the Hospital for the Ruptured and Crippled, New York, approached the question from the other side, not collecting cases of phimosis but making a laborious review of four hundred and eighteen cases of hernia in the male. "In a great majority" of cases, phimosis existed to such an extent that the glans could not be uncovered, and in fifty-two cases there was a degree of phimosis sufficient to form a decided obstruction to urination. (*Am. Jour. Obst.*, July, 1880, p. 693).

Mr. Bonwell in (*London Lancet*, Aug. 2, 1879) called attention to the fact that there was some relation between phimosis and hip-joint disease. In one hundred cases of *morbus coxarius* he found the prepuce normal, according to his notions, in only six cases. Swasey of New York, again putting the English statistics to the proof, examined fifty-two consecutive cases of morbus coxarius and found not one in which the glans could be fully exposed.

I do not forget the expressed intention of this society to debate nervous diseases and nervous reflexes beginning at the genito-urinary tract. I introduce these statistics here, not pretending that hernia and morbus coxarius are nervous diseases, but to suggest to you the great probability of a reflex influence proceeding from the imprisoned penis,—an influence not motor and not sensory, but trophic in its nature.—an influence which expends itself in modifying and perverting the nutrition of neighboring parts which, like the hip-joint and inguinal canal, are in close nervous connection with the penis.

I submit, sir and gentlemen, that, enlightened by such facts as I have laid before you, we do not do our full duty if we treat cases of paralysis or of incoördination in boys without examining the penis. It is rash to take it for granted that the penis is all right in cases of chorea, epilepsy and mental disease occuring in boys. Every case of hernia and of hip-joint disease in the male before puberty should arouse a suspicion of some genital deformity. Every case of incontinence of urine in boys should be regarded as a case of phimosis or of glandulo-preputial adhesions, or of stone in the bladder, until the contrary is proved.

If the time would permit, I would by a few words tempt you to some discussion of the evils of excessive venery and of masturbation. I know, however, that you will not neglect this common and potent cause of reflex nervous disorders. I have addressed myself chiefly to the discussion of congenital deformities of the penis with a hope that, riding on the very top of the latest fashion in medical belief, we might reach a point of further information in a neglected province.

RIESEBERG'S IODINE CAUSTIC.—This preparation has been used in the treatment of lupus. It contains:

Iodine	1 ounce.
Glycerine	2 ounces.

It is applied every second day with a camel's-hair brush, but as the preparation is very powerful its action requires to be carefully watched.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of April 24th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

Sarcoma of the Choroid.

By W. W. SEELY, M.A., M.D.[1]

Gentlemen: The history of the case I present is extremely meagre, but I present it for what it is worth, as it is all that could be gotten from the patient in any way pertinent to the case.

Patient, female, aged fifty-five. About a year and a half ago the lids of the left eye became inflamed. Sclera of left eye was at the same time intensely injected. In April last her eye suddenly became black and was removed. Shortly after this a physician told her that there was a tumor, but it was not removed till August.

When the patient applied to me in February, 1882, I found that the lids, all the tissues of the orbital cavity and probably the bone at the external angle, were filled with a black growth.

The patient was extremely anxious for an operation and with the kind assistance of my friends, Profs. Conner and Ransohoff, I undertook the operation of removal.

I began by cutting from the lower and inner angle through the lid to the base of the orbit, carrying the incision entirely around over the base of orbit above, ending at the superior internal angle. I then gradually eviscerated the orbital cavity including the periosteum. I found the bone at the external angle thoroughly infiltrated with the growth and removed it over such a depth and area as gave me a clear surface. After the evisceration I found that the only remains of the growth were in the optic foramen, through which it was extending along the optic nerve to the cranial cavity. Some iodoform was dusted upon this point and the orbital cavity filled with absorbent cotton saturated with vaseline and boracic acid.

The iodoform was applied a few times and I then made an application of Vienna paste. The temporal wound healed very rapidly and the orbital cavity diminished very greatly in size by granulation, and exfoliation of the bone at the apex had begun, when, at the end of five weeks, the patient gradually became comatose and died.

During the treatment the patient had one sharp, and three other minor attacks of erysipelas of the head and face, and as they invariably came on after the use of the iodoform, there seemed to be but one inference, that of cause and effect.

No post mortem could be obtained and hence the case remains as unsatisfactory as it began in my hands.

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This secondary mass that I removed was without doubt *melano sarcoma* (the specimen not yet examined), and while some doubt may justly exist as to its primary origin, I am inclined to think it, like the majority of melano-sarcomata, sprang from a choroidal tumor, still it could have originated in the sub-conjunctival tissue at the sclero-corneal region or in the orbital cellular tissue.

In what follows I will confine myself to sarcoma of the uveal tract, and almost exclusively to matter taken from Fuchs' monograph on the subject, the latest and most exhaustive work in this field.

The greater majority of orbital-sarcomata are round cell, spindle cell and fibro-sarcomata. The fibro-sarcomata furnish far the largest contingent of orbital tumors (if in this category are included the tumors described as fibroids and fibromata).

The encephaloid and medullary forms of the older authors may be reckoned among the round or spindle celled sarcomata, the scirrhus among the fibro-sarcomata (Berlin).

Whether a melanoma is coming from the eyeball outwards, can, of course, only be decided while there is the possibility of an ophthalmoscopic examination. By far the largest number of melano-sarcomata appearing in the orbital cavity come as an extension from the choroid, or spring from the conjunctival connective tissue in the region of the cornea. They may also come from an intra-cranial tumor, and finally as metastases. A few melano-sarcomata have been described as arising in the cellular tissue of the orbit.

Sarcoma is connective tissue with a preponderating development of cells.

(Sarcoma is formed of only one sort of tissue, cells and intercellular substance.)

Sarcoma is divided according to the basis taken for division. One can assume as such the nature of the cells, or the inter-cellular substance, or finally the further changes of the embryonal tissue into the higher forms (bones, cartilage, etc.) As regards the form of the cells, one distinguishes round celled, spindle celled, reticulated sarcoma; as regards the size of the cells, small celled, large celled; as regards the intercellular substance, so far as it determines the consistence of the growth, we distinguish the hard and soft sarcoma.

If the sarcomata leaving the type of embryonal, indifferent formative tissue, represent a higher development material in the connective substance order, we have the following varieties: lymphosarcoma, gliosarcoma, sarcoma endothelial, melanosarcoma, fibrosarcoma, myosarcoma, myxosarcoma, chondrosarcoma, sarcoma lipomatodes, angio sarcoma, psammosarcoma, cystosarcoma. Virchow ranges these sarcomas among the sarcoma carcinomatodes, as transitional form of sarcoma into carcinoma.

Spindle and round celled sarcomata of the choroid spring from the layer of large vessels, never from the corio-capillaris.

Malignity of round or spindle celled sarcomata finds its expression, not in the character of the cell, but on the one hand in the rapidity of development and growth of the tumor, on the other in the tendency of the same to relapses and production of metastases.

Spindle celled sarcoma, being the harder and fewer in vessels, shows a slower growth, than the round celled.

Relapses occur in the proportion of 1 spindle cell, 2½ round cell, 2 mixed celled.

As regards the location, in the anterior portion of the eyeball, including the equator:

Round cell,	16.	in posterior,	10.
Spindle "	23.	"	27.
Mixed	4.	"	9.

Hence the colorless happen more frequently in the anterior, and the pigmented in the posterior. In general, one can say that the anterior half of the uveal tract disposes to the development of the colorless and round celled sarcoma, the posterior to the pigmented and spindle celled. Spindle celled sarcomata occur, on the average, oftener in older persons than the round celled, though the difference is not great.

Fuchs regards those tumors described as combination of sarcoma with carcinoma as nothing but alveolar sarcoma. He thinks Virchow himself would now so regard them, since Billroth has indicated the alveolar as a separate species.

On an average the formation period up to an operation is ten months. The alveolar is regarded as the most dangerous, since it approaches more nearly histologically to the carcinomatous. The relapses and metastases give rise almost always to the pure alveolar type.

Differential diagnosis between sarcoma and other neoplasms.

Pigmented sarcoma may be confounded with simple melanoma; unpigmented sarcoma with tubercle, granuloma, gumma and glioma.

Melanoma occurs for the most part in the iris, very seldom in the choroid. Inasmuch as there are places in the strongly pigmented sarcomata where spherical cells, lying closely against each other, filled with pigment occur, the anatomical diagnosis must be based upon an examination of the entire tumor and not of parts of it.

Again at the point in the choroid from which sarcomata spring they substitute its tissue, while melanoma simply rests upon it.

Melanomata may appear along with melanosarcoma in the same eye; sometimes melanosarcoma of the iris developes from simple melanoma. Under certain circumstances it may be difficult to differentiate unpigmented sarcoma of the uveal tract from *tuberculosis*.

The anatomical diagnosis is based on the following points: the tubercular tumor appears yellow in the centre, gray at the periphery; the gray border is composed of numerous fine points, which possess the typical structure of tubercular nodules, with giant cells in the centre.

The diagnosis of tubercle from sarcoma must chiefly depend on the fact of tubercle being composed of individual small nodules and upon widespread caseation in its centre.

Unpigmented tumors appear in the iris that have been called *granulomata*, but which are regarded by Haab as *tubercles*. The author, however, does not think H.'s description holds in every case, and hence the diagnosis from the anatomical findings alone is very difficult.

Granulomata are only found in the iris. *Gummata* occur most frequently in the iris, more seldom in the ciliary body and only most exceptionally in the choroid. They represent a soft, rapidly growing tissue that consists for the most part of small round cells with one or two pale nuclei that are imbedded in a scant, gelatinous or fine fibroid connective substance; very seldom appear spindle or reticular cells (netz fōrmige). The anatomical diagnosis between gummata and many small celled, round celled sarcomata rests chiefly on the regressive metamorphic appearances already mentioned, since these in sarcomata play but a subordinate role, and in young sarcomata, in which alone a confounding with gummata could occur, are as a rule entirely wanting.

The diagnosis between *glioma* and colorless small round-celled sarcomata is easy so long as we know the starting point of the neoplasm, since *glioma* always springs from the retina and sarcoma from the choroid.

Glioma is distinguished from small round celled sarcomata by the special fineness of the cell elements, their peculiar arrangement in rows and the extraordinary small quantity of intercellular substance.

Location.—Out of 259 sarcomata 16, or 6 per cent. were in the iris; 22, or 9 per cent. in the ciliary body; 221, or 85 per cent. in the choroid. By far the larger majority of choroidal sarcomata arise in the posterior portion of the choroid.

Sarcomata spread by *local progression* and *metastasis.* Sarcoma of the uveal tract is one of the most infrequent of eye diseases.

Out of 137.545 eye patients it appeared 91 times, or 0·066 per cent.; about 1 in 1511 patients. The 259 tabulated cases of the author would represent about 400,000 patients. Sarcoma of the uveal tract, with the exception of the first two years, appears at all ages, the greater number however being found in the two decades, from 40 to 50, and 50 to 60, its frequency gradually increasing from the 2d year up to 60th. More men are recorded than women as having sarcoma, though this fact is due probably to the more urgent reasons for men applying for relief.

Aetiology.—Sarcoma of the uveal tract, like most of tumors, appears, as a rule, spontaneously, and the fact that early removal of the eyeball gives permanent relief, shows that it does not depend upon a *dyscrasia.* Heredity cannot be said to have any influence; nor sex, occupation or physical peculiarities.

Predisposing Causes. — Inflammation of the uveal tract, giving rise to a certain amount of phthisis bulbi, in certain cases, gives the impulse to the formation of sarcoma.

Traumata are a frequent cause.

Cohnheim says that in the last ten years 14·3 per cent. of all the tumors observed at Berlin occurred after wounds.

Twelve per cent. of the 344 carcinomata operated upon in Langenbeck's clinic were traumatic cases. The subsequent results of traumata, severe inflammation, with abundant cellular infiltration of the uveal tract, finally leading to a hyperplasia, from which to sarcoma there is but a small step, seems to be the process by which a wound leads to the development of sarcomata.

The only differential diagnostic point between sarcoma iridis and simple melanoma is that as a rule melanoma is far darker than melanotic sarcoma. Melanomata are congenital and stationary tumors, sarcomata not. Colorless sarcomata of the iris must be differentiated from gummata and tubercles of the iris (grauloma).

As regards gumma iridis it is to be remarked that it is as a rule accompanied from the beginning by iritic symptoms, which is not the case during the first stage of sarcoma. Gumma, in its center, its most elevated point, is poor in vessels and of a yellowish white color, while its base or border is rich in vessels and yellowish red.

Sarcoma, as a rule, contains more blood-vessels which are macroscopically visible on the surface of the tumor.

Naturally, a general physical examination is of importance, to see if any other luetic symptoms are visible; and in doubtful cases the inunction treatment must be resorted to.

Tuberculosis appears in the iris as a disseminated tubercular eruption, or as a conglomerate tubercle (among which must be classed granuloma); only the latter form resembles sarcoma.

The points in differential diagnosis are: Granuloma is much poorer in vessels than sarcoma, as the result of which it is grayish-white in its centre, especially if caseation has already begun in it. Granuloma differs greatly in its course from sarcoma; it is usually early accomplished by iritis, and attains, though usually bursting through the coats of the ball, but a moderate size, when it breaks down partly and partly shrinks and leaves a phthisical eyeball.

Relapses in loco or metastases are not observed. Granuloma appears in man almost entirely under 26, while the average of an irridal sarcoma is 35.

Prognosis. — Sarcoma unoperated upon presents an absolutely unfavorable prognosis. Of three such cases collected by the author from old records, from the beginning to the death of the patient, one was 5½, one 3¾, one 1⅔ years.

Of 8 cases observed for a long period after the operation, 7 remained free from relapses; one, in which there were many points in the other eye, presented a relapse.

Iridal sarcoma, therefore, presents a relative favorable prognosis, chiefly for two reasons, because early observed and operated upon, and because it can exist longer without giving rise to metastases.

Sarcoma of the ciliary body and choroid.—

Out of 235 apparently radically operated cases, 31, or thirteen per cent., presented local relapses, within the following periods:

From 1 to 6 months of the operation,	11 cases.
" 6 " 12 " " "	7 "
" 1 " 2 years, " "	5 "
" 2 " 3 " " "	1 "
" 3 " 4 " " "	2 "
In 7 " " "	1 "
" 9 " " "	1 "
No time recorded,	3 "

The period of greatest danger from relapses is, therefore, the first six months.

An operation after relapse naturally affords much less certainty against a second relapse.

Metastases are more frequent than local relapses. Of the 22 cases of the author, at least 11 died of metastases. These metastases may occur anywhere between 1 month and 5 years. In the larger number metastases kill the patient within the first two years.

An early operation does not protect the patient, as a rule from metastases.

While the majority of patients die of metastases, still among 243 cases there were 15, or six per cent., of definitive (permanent) cures.

There have been cases in which the tumor relapsed in loco after the operation; the relapse operated upon, the patient remaining free after this from metastases. Likewise cases, in which the patients have died of relapses, and yet post-mortem showed no metastatic nodules. Such cases ought to encourage us to undertake an operation even in a later stage, and also for relapses, so long as a possibility of radical removal exists.

There can be no doubt that sarcoma of the choroid, especially of melanotic, surpasses in malignity all other known new formations.

The following table represents the persentage of permanent cures:

Sarcoma choroideæ,	6	per cent.
Glioma retinæ,	6 ½	"
Carcinomata cutis et oris,		
According to Thiersch,	12	"
" " Bergmann,	19	"
" " Billroth,	17	"
Carcinomata of all sorts,		
According to Winiwater,	29	"

I will add that the only treatment is the removal by operation of all the diseased parts.

So long as the growth is confined within the eyeball, enucleation will suffice, even iridectomy will be sufficient so long as only the iris is involved, but when the growth has burst through the coats of the eyeball and there are any nodules in the orbital tissue or periosteum evisceration of the orbital cavity, is probably the safest, removing at the same time the periosteum. Of course, the greatest care must be taken in examining the optic nerve, in cases of simple removal of the eyeball, to see if the cut end is in a healthy state. There can be no objection to the still more radical removal of the bones of the orbital cavity by means of the Vienna paste, as has been done by Lawson and others.

In fact there would seem to be but one limit to the extent of operative interference, viz.: the membranes of the brain.

Dr. Worrell, of Terre Haute, Ind., had operated upon the case, and in answer to some inquiries I received the following letter which adds confirmation to my view of the location of the tumor.

TERRE HAUTE, April 24th, 1882.

DR. W. W. SEELY, *Dear Sir:*—Yours of the 22nd is at hand. When I saw Mrs. Sattler first, the disease had invaded the orbit, fixed the eyeball and destroyed all anatomical evidence, by which I would judge of the place of origin of the disease.

The history, however, of long existing blindness, before the occurrence of pain or the recognition by the patient of any chronic disease, would point to intraocular origin. Macroscopically there is seen a very small corrugated cornea situated upon a mass of the pathological tissue, having just in the situation of the anterior chamber, a slight cavity. Unfortunately the specimen met with an accident during its preservation for the microscope, which has prevented a satisfactory examination, but so far as I can make out the corneal margin is lost in the sarcomatous mass.

DISCUSSION.

DR. RANSOHOFF remarked that a sarcoma of the eyeball was of great interest because in this organ the morbid growth may be witnessed from the beginning, and it may be removed before the vicinity of the eye becomes implicated. However it is not always possible to save the patient by an early operation; some cases are sure to recur. The speaker saw once a case of sarcoma in a young girl, in whom the tumor made its first appearance in the skin of the abdomen, it was about the size of a walnut, and did not extend very deeply. The growth was removed but afterwards the sub-cellular tissue became involved and in three months the sarcoma occurred just in the site of the original wound.

If the tumor be radically removed there is a chance of recovery, but unless this be done it is better not to interfere. If the first operation prove a failure it is advisable not to resort to further operative procedure. Secondary operations seem to curtail the life of an individual, the growth appears to be hastened more than if no attempt at removal had been made. The speaker admitted that he had previously been an advocate of repeated operations, in case the first should prove unsuccessful, but he had been lately led to change his views. Dr. Seely's case appeared to be solely external, it was not very large, it caused but a slight bulging of the upper eyelid and it looked as if it could be entirely removed. When it was excised the fundus of the cavity showed a black mass which seemed to extend to the dura mater. Even the most extensive operation could not have removed this entirely. This does not alone apply to the orbit but to tumors in other situations. The speaker removed a sarcoma of the upper jaw about one year ago; the operation was satisfactory and promised success, yet in four months the tumor recurred in the same place. He thought of a second operation but was advised adversely. The patient passed into the hands of another surgeon, and finally died.

The application of iodoform is often followed by marked benefit; it dries up the secretions but may produce erysipelas. In one instance Dr. Ransohoff said he had all the symptoms of iodoform poisoning, the pulse rose at one time to 140 and the cerebral symptoms corresponded with the toxic effect of this agent.

PHYSICAL EDUCATION OF GIRLS.—M. Bert lately said shrewdly, "When you educate a boy, you perhaps educate a man; when you educate a girl, you are laying the foundation for the education of a family." This is as true physically as it is morally and mentally, and too much stress cannot be laid upon the importance of physical education and recreation in girl's schools.

MIAMI MEDICAL COLLEGE ALUMNI ASSOCIATION.

Annual Meeting held on March 9th, 1882, at Miami Medical College, Cincinnati.

Address of Dr. Thomas V. Barkley, in behalf of the Graduating Class of 1882.

Mr. President, Gentlemen of the Society, and Classmates:—Dickens has said "Had we the power to rend the veil which shrouds in darkness the thoughts of our fellowman—could we interpret the mystic heart throbs, as the telegrapher does the click, click of his instrument—could we unlock the secrets of his bosom and learn the source of its emotions, then, and not till then, would we be prepared to judge of the right or wrong of his actions, to sympathize with him in his sorrows, to join him in his hallelujahs." In appearing before you this afternoon, we feel assured that there is no need of this magic power to awake in you a kindly feeling for us. Doubtless the review of your hearts is now calling back to memory dear, the occasion, when you stood upon this floor for the first time as alumni of Miami Medical College, and can yet recall with what ineffable joy your souls swelled when examinations o'er, the dread portals of the "green-room" passed, you realized that the time of reaping the reward of so many hours spent in study and dire forebodings, had arrived. These reveries of school-boy days will, I am certain, elicit your liveliest interest, and assure to us a most cordial welcome to your midst. For three years this has been the goal of our efforts, the Mecca of our hopes, the Kebla of our desire, and now we bow with pleasure, mingled with a feeling of satisfaction and pride, to the honor of membership in your society, and admittance into the ranks of the medical profession, which Cicero pronounced, "The most god-like of all avocations," and which thanks to its many illustrious votaries, has risen above the mere trade of pedagogues and witches' potions, to a most learned and useful science, calling forth the noblest sentiments of the soul, the relief of suffering, the rescue of the perishing, the comfort of the dying. To us, this is an important occasion. It is the threshold of a new existence, the beginning, as it were, of a life's duties. We stand to day like sailors who have landed on a narrow isthmus, behind them is the sea over whose familiar waves they have danced with wild delight; before them a vast, unknown ocean, on which they are about to embark, eager to survey its boundless waste, yet half regreting to say *farewell* to the one, half fearing to trust themselves to the other. Thus it is—"E'en to be happy is a dangerous thing"—to-day, college boys, enervated by the soft and Circean spell, that the laughing hours of the present weave around us—to-morrow, men of the world to be nursed in the vicissitudes, beaten by the rough winds, and confronted by the austere duties of life—thoughts which almost make us recoil ere the first step is taken. But, while thus confessing a knowledge of our ignorance, and fully realizing that we have only entered the boundary land of the "healing art," yet, it would be uncomplimentary to my classmates, and certainly unjust to our profession, not to say, that we are, I suppose, as well prepared to discharge these duties as others who belong to that unenviable class, "Yclept"—The young doctors. "Those fellows," quietly remarked Napoleon to Marshal Murat, when he beheld his raw recruits fleeing in utter confusing on the field of Marengo, "those fellows are yet to compose my body guard;" and thus may we not hope by means of perseverance and industry to occupy a place in the vanguard of the already numerous army of physicians. To what height the career of the members of this class shall attain, we can not say, but let it be ever so exalted, we shall ever date its beginning to our entrance into this college, and, as the shell, though far removed from its native sphere, is ever re-echoing the notes of its wind born lullabies and resounding the murmurs of its billow-lashed home, so will the corridors of our memory ever reverberate with, and our tongues ever sing the praises of our "Alma Mater." Now, in behalf of my colleagues, I desire to extend to our professors, our sincerest thanks for their untiring and unremiting efforts to instruct us in their various branches. They have ever been on the alert to aid us, not the less in our studies than in our social life; have pointed out to us the dangers which beset our way; have led us, so to speak through the by-paths, and now, having reached the highroad, are about to dismiss us with a "God speed," on our journey. Professors, we are proud to boast of such instructions, happy that we can claim your friendship, and confident that we can rely on a renewal of your assistance in time of trouble. I search in vain for a sentiment to express our feeling toward you. It must remain an unexpressed, yet not wholly concealed thought; it beams from every eye, it quivers upon every lip, it is an emination of that gratitude, which softening under a sense of recollected good, is anxious to own the vast debt it ne'er alas! can pay. You have unconsciously shown us by your own acquirements what patient and diligent attention to duty will accomplish, thus inciting us to renewed exertion. You have faithfully sown the seed—have placed into our hands the sickle, Classmates, what will the harvest be? Shall it be one of barren regrets, or one replete with kind deeds, noble actions, and a consciousness of a duty discharged? Will the retrospect of after years be an avenging nemesis, which like Banquo's ghost will not down at our bidding, or will it be as a "Good Angel," ever lingering near, whispering "well-done?" Our lives are to a great extent what we made them. "We build the ladder on which we rise." "From the lowly earth to the vaulted skies." To the old Greeks all things were subservient to fate. To their minds men were mere automatons; waiting to bask in the smiles or cringe beneath the the frown of moira. To-day we make her our captive, and with brave hearts and God-given, swim gallantly out into the drawing stream of the current of life, and parting, with our own hands its drift-wood, removing by dint of our own efforts every barrier, may hope to gain Honor's Isle, and while clinging to its rock-bound coast, can bid defiance to the fates, but, which, when once forsaken is forever lost. Then, while heartily disclaiming all intention of giving you a sermon, let me as a parting injunction say, shun every resemblance of evil, this is our only anchor of hope, many of us are soon to mingle with strangers, who, in the future are to become our patrons, the source of our daily bread and if no other motive than the love of money prompted us, we should strive to have them believe us to be sober, honest, and conscientious men. To command their patronage, and to succeed as practitioners, we *must* gain the the people's confidence. Their psychical influence our professors have repeatedly sought to impress upon our minds, while Galen long ago gave to the profession the well known "spes et confidentia plus valent quam medicina" and Paracelcus, it is said, "would allow Hippocrates no other credit for his cures, than the fact that the common people had strong belief in his worth." Then, let Honor be your guiding star, and to use the language of Bobby Burns, "To catch Dame Fortune's golden smiles, assiduously wait upon her, and gather gear by every well." "That's justified by honor," "Not for to hide it in a hedge," "Not for a train attendant, but for the glorious privilege, "Of being independent;" "The fear o'Hell's a hangman's whip," "To have the wretch in order," "But, when ye feel your honor grip," "Let that, aye, be your border," "Its slightest touches, instant pause," "Debar a'side pretences.""And resolutely keep its laws," "Uncaring consequences."

Classmates, our connection as students has been of the most pleasant character, circumstances brought us together, unity of thought, oneness of purpose made us acquaintances, and time has cemented that casual aquaintance with the bonds of true and warm friendship. I feel that my voice, is but the echo of your own souls' whisper, when I say, I wish to one and all a long, happy, and useful career. I shall ever rejoice to hear of your success, grieve to learn of any one's failure, but I beg pardon for useing this word, it is a "lapsus linguæ," for with the experience of our professors to aid, and the light of recent investigations in your science to guide you, with a territory stretching from ocean to ocean, from the lakes to the gulf, and taking your lives as students as an earnest of the future, I should not have suffered *failure* to pass my lips. Be studious, be industrious, be attentive to business learn "to make haste slowly" and I am sure I can never use this word in connection with your names. Be ever ready to lend your voice to all which tends to elevate and ennoble, quick to frown upon that which would degrade your fellow-man. Finally, let us be kind and attentive to the poor I care not whether "they be God's poor or the Devil's poor," suffice it that suffering humanity and surely no act of genuine charity is ever lost, somewhere in the conservatory of good deeds is it stored away and will sometime put forth its blossoms and shed its sweet perfume, perhaps in the hazy light and murky atmosphere of this mortal life perhaps in the balm and brilliancy of the eternal morning.

Classmates, we part as friends, may we so conduct ourselves that meeting in after years, we will not be ashamed to own each other as such.

Selections.

MEDICINE.

On the Origin of Ulcer of the Stomach.—Prof. H. Zumcke, of Kiel, has recently made a valuable contribution to the obscure subject of the etiology of gastric ulcer (*Deutche Med. Wochenschrift* No. 6, 1882) from which we take the following points:

Having made gastric fistulæ in dogs, the experimenter proceeded to irritate the walls in various ways, and succeeded in producing abrasions and erosions, sometimes superficial ulcers. These insults always healed very quickly without leaving cicatrices. Even after exsection of the mucous membrane down to the submucosa, the edges of the wound rapidly united and completely healed over, leaving a radiating cicatrix in six days. Submucous injections of irritants, chloride of iron, and nitrate of silver, led to exfoliation of the mucosa in two or three days, leaving an ulcer which extended to the muscularis; but this ulcer also healed in 16 to 21 days. Disks of metal (coins) dipped in hot water after repeated applications produced ecchymoses and superficial ulcers; but they always rapidly healed in the same way. The rapid healing of all these lesions proved that some other factor is necessary to produce the gastric ulcer of nosology than mere trauma or occlusion of vessels. This other factor was found in anæmia. The experimenter next proceeded to render the animals anæmic by venesection, when, on repeating the same observations, very different results were obtained. Thus, while the ulceration resulting from submucous injections of chloride of iron healed in the healthy animal in 18 days, the same lesions were not healed in anæmic animals in 31 days. The hot disk ecchymoses and erosions healed in the healthy animal in two or three days, but the same injury left an ulcer in anæmic animals that was not healed in 12 days. The author, therefore, concludes with Engel that the gastric ulcer of man is not in any way specific, but is the product of the most various lesions of the gastric mucosa. It is only the action of the gastric juice that is peculiar. The peculiarity consists in the fact that the gastric juice erodes in the anæmic, an ulcer which is chronic rather than acute. In this respect gastric ulcer is like a superficial ulcer, as of the leg, which in a healthy individual heals in a few days, but in a varicose individual shows no tendency to heal. The author believes that many cases of acute gastric ulcer occur, heal, and are not recognized in life at all.

J.T.W.

The Action of Nitro-Glycerine.—After the experiments of Murrel had demonstrated nitro-glycerine might be employed with remarkably good results in angina pectoris. Prof. Korczynsky (*Wiener Med. Wochenschrift*) pursued some experiments with it upon both healthy people and invalids.

The dose administered was from one to six drops of a one per cent solution. The action of the remedy was observed chiefly upon the circulatory apparatus and the brain. The apex beat of the heart became stronger, its tone louder, the pulse becomes more rapid and dichrotic, and the arterial tension was diminished. In one case the pulse became irregular. The action of the drug reaches its full intensity in from three to fifteen minutes after administration, and passes off entirely in forty minutes more. There is, as a rule, a headache. Larger doses, as of six drops are accompanied with photophobia and tinnitus aurium.

The therapeutic action of nitro-glycerine coincides with the observations of Murrel. It exerts a sedative action in angina pectoris, the same as was observed by him. Upon the pure neuroses following angina pectoris, it exerts not only a palliative, but a curative influence. And it is a no less faithful remedy in the bronchial asthma dependent upon emphysema of the lungs, and in the cases of purely nervous palpitation of the heart.—*Deutsch. Med. Zeitung*, April 6. J.M.F.

LECTURES ON INFLAMMATION.—Delivered before the Royal College of Physicians, by J. Burdon Sanderson, M. D., LL. D., F. R. S., Professor of Physiology in University College, London.

Lecture II. Part I. Ætiology of Inflammation.—In my last lecture, I endeavored to show that if we take the word inflammation to mean what it has always meant, namely, an acute local disorder, in which the affected part is hot, red, and swollen, we can account for the concurrence of these objective changes completely on the theory that they are the direct physiological effects of injury; the ground for this view being the observation that, by acting on an organ in such a way as merely to depress or impair its vitality, without destroying its texture or otherwise interfering with its continuity with surrounding parts, we induce in that organ a state of things which, although not inflammation, is so immediately related to it, that out of it, without any intervening process of development, inflammation at once declares itself.

For what I attempted to show in the last lecture was, that it is possible, under favorable circumstances, for inflammation to come into existence *d'emblée*. That in general its development is gradual, arises from the gradual action, extension or dissemination of the cause; but if the cause be of such a nature that it damages a considerable area at once and in the same degree, as when for a time you cut off the circulation from an external organ or subject it to the action of high temperature, the physiological effect follows directly on the injury. What we saw in the ear of the rabbit was this: immediately after it had been exposed to a temperature just high enough to spoil its tissues, there was no visible effect whatever; its circulation was normal, and no sign existed that it had been injured. But soon afterwards it became hot, œdematous, and congested. The invisible change of which thes physiological phenomena were the inevitabl consequences may be conveniently labelled—damage, it being understood that we mean by thi term the state of things which immediately precedes inflammation, whatever may be the natur of the agent that produces it.

I am well aware that so simple a conception o the origin and essence of a pathological proces is, by reason of its very simplicity, extremely difficult to seize upon. For inflammation is itsel so positive a thing, and we are so accustomed t think of it in connection with ideas of excessive action, that it is very hard indeed to reconcile the mind to regard its phenomena, not as outward signs of an inward process, not as visible indications of disordered function, but merely as the expressions of loss and failure.

The question with which I have to deal to-day lies behind the one which was discussed in the first lecture. In saying that the immediate antecedent of inflammation is local damage, and that it may consequently be defined as the physiological effect of injury, it might appear as if we had already settled the question of its origin. Thus, for example, when we see the state of inflammation brought into existence as the immediate result of damage due to an obvious cause, we could not be accused of inaccuracy in attributing the pathological result produced to the injury inflicted, and most people would regard it as mere quibbling to suggest that some other agent, to which the obvious cause was merely auxiliary or predisposing, lay concealed behind it. Yet it is suggested, and even dogmatically asserted by some pathologists, that, in the genesis of every inflammation, however definite may be the relation between the antecedent damage and consequent reaction, this relation is, after all, merely secondary. The true cause is the introduction into the damaged tissue from the atmosphere of invisible germs.

This theory of the etiology of inflammation, when so presented, appears exaggerated and even absurd. There is, however, much more to be said in favor of it than at first sight appears; and it will be the purpose of this lecture to endeavor to come to a right conclusion as to the way in which, if not germs, minute organisms, co-operate, as they unquestionably do, with other more easily recognized conditions, in the production of inflammation.

I think I shall best present to you the points which require consideration by again beginning with inflammation of the cornea, as being more within reach of experimental investigation than any other. The particular case to which I will ask your attention—that of the superficial inflammation of the cornea, which occurs after severance of the fifth nerve—is advantageous for our purpose, first, because the antecedent injury is remote from the seat of pathological change, and exercises no direct influence in producing it, so that free play is given for the operation of other concomitant circumstances; and secondly, because the organ primarily affected is so transparent and so superficial, that the slightest change in it can be appreciated by the naked eye; at the same time, that its structure is so simple, that the finer details of such change can be easily investigated by the microscope. Let me first state what these changes are, and in what order they occur.

As regards the eye, the immediate effects of the severance of its afferent nerves are, of course, the abolition of the protective reflex of winking and the arrest of the secretion of tears, whereby the corneal surface is exposed to a variety of accidental injuries, at the same time that it is deprived of the mechanism by which, under natural conditions, foreign bodies are removed from the surface of the cornea and conjuntiva. The subsequent effects are as follows:[1] About twelve hours after the section of the nerve (in the rabbit), the cornea begins to lose its brightness. By the end of twenty-four hours, the turbidity is distinct; and, if at this period, the animal be killed and the cornea excised, it is found that the epithelium has become partially detached. Up to this time there is no congestion of the limbus, no exudation of leucocytes from the dilated veins—in other words, no inflammation. These soon afterward follow, but as yet the change is apparently a very slight one, and it is confined to the surface of the cornea. What is its nature? To find this out, we have to appeal to the microscope. Sections of the corneal substance show that the corneal corpuscles have, in the opalescent parts, simply wasted away. There is no "proliferation," nothing to be seen suggestive of disorder of nutrition in the sense of Goodsir and Bowman. What has happened is, that the surface layers of corneal tissue have died, and, in consequence, that the epithelium, is beginning to separate. If we look at the same eye about thirty-six or forty-eight hours later, the state of things is very different. The cornea is surrounded by a ring of inflammation which has extended to the whole conjuntiva; its surface is uneven and opaque, and on microscopic investigation, it is found that its whole tissue is pervaded by colorless corpuscles, some of which have escaped from the episcleral vessels, while others have entered from the conjunctival sac. How, at a still later stage, pus finds its way into the anterior chamber, and the destructive process eventually involves the whole eyeball, I need not occupy your time in describing; for to us the whole value and interest of the process I have described relates to its mode of origin, and not to its issues.

Let me first state what evidence we have that the damage of the cornea, which here, as in other cases, is the immediate antecedent of inflammation, can not be attributed to the cutting off from an organ so richly supplied with nerves as the cornea, of whatever trophic or other influence may be exercised on it by the cerebro-spinal centres. Without going so far as to deny the possibility of such influence, it is demonstrably inadequate to produce the result; for it has been conclusively proved that if, after section of the trigeminus on one side, the eye be carefully nursed, *i.e.*, protected from what may be called rough accidental injury during the process, no change whatever ensues; and, further, that if both eyes be subjected simultaneously to irritation of the same kind and degree, the paralyzed eye is not one whit more affected than the sound one;[1] so that there is no ground, so far as the cornea is concerned, for supposing that loss of innervation acts either as an exciting or as a predisposing cause of inflammation.

This being admitted, it is evident that the real cause of damage is traumatic, *i.e.*, it is dependent on the fact that the unprotected and feelingless eye is brought by the animal repeatedly into collision with surrounding objects in such a way as to spoil the surface of the cornea; and we are justified in this conclusion by the observation that a spoiling of exactly the same kind can be produced experimentally by mechanical means, provided these are of such a nature as to leave the epithelium in tact. But the question which now interests us lies behind this. What we have to ask is, not how the surface was damaged, but how it happens that this damage leads to inflammation. A dozen years ago, we should without hesitation have said, the disordered nutrition of the non-vascular cornea extends by virtue of continuity of structure to the vascular limbus, causing the vessels to exude liquor sanguinis, and the connective elements in their neighborhood to proliferate. Such an explanation is no longer possible, for we know that the primary damage has nothing to do with proliferation; its condition is simply (to borrow Mr. Lister's expressive language) "approximated to the condition of ordinary matter." The question is, how does this purely negative change acquire the power of so affecting, or as we may, without assuming too much, call it, infecting, the surrounding vascular tissues? The answer which modern pathologists make to this question is simply—micrococci; and this, indeed, is the only one that can be given; for neuroparalytic keratitis is a type of what may be called a mycotic inflammation, one of which the spread from tissue to tissue is accompanied by the growth and multiplication of those organisms.

Twenty, or even ten, years ago, we should, for want of the means of observation, have failed to recognize them. Now, their existence can be determined (thanks to recent methods of preparation) with as much certainty as pus-corpuscles, and almost as easily. Admitting all this, we have still not got to the root of the matter. In the case of the cornea, it is scarcely necessary to show that, however probable it may be that micrococci are the agents by which the primary lesion extends its influence to the surrounding vascular structure, their appearance on the sence is subsequent to the damage of which they are, in fact, among the pathological consequences. In other words, while their presence is the proximate cause of the secondary iritis and conjunctivitis, it does not follow that they are but originators of the whole process. The question of the mode of origin of acute abscesses is a similar one. Dr. Ogston has, I think, pretty conclusively shown that micrococci invariably take part in this process, and act as if they were the sparks from which every such inflammatory focus is kindled.[1] All this we may admit, and at the same time demur to the inference that he seems to draw from it, namely, that acute inflammation in general depends on the morbific action of septic organisms. As regards this particular instance, we have sufficient reason for demurring, in the consideration that an acute abscess is no more a primary inflammatory lesion than the conjunctivitis and iritis with which we have compared it. An abscess does not come into existence in a healthy *d'emblée;* it must always have been preceded by an inflammatory process. The proof, then, that micrococci were concerned in its origin, even if could be carried so far as to show that around them the first pus-corpuscles grouped themselves, leaves the question of the origin of the preceding inflammation still open.

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[1] Senftleben, "Ueber die Ursachen und das Wesen der nach der Durchschneidung der Trigeminus auftretenden Hornhaut affection, Virchow's *Archiv*, vol. 55, p. 69.

[1] Senfileben. "Nachträgliche Bemerkungen, "Virchow's Archiv. vol. 72.

In the paper published in the Royal Medical and Chirurgical Society's Transactions in 1873,[2] I endeavored to show, on the ground of experiment, that the only inflammations to which minute organisms stand in relation are those which, from their proved dependence on previously existing inflammation, may be properly termed secondary or infective; and consequently, that the organisms in question were, in all probability, not so much mischief-makers as mischief-spreaders. That is to say, although an inflammation may come into existence without their aid, their presence communicates to it, after it has come into existence, the power of reproducing itself in previously healthy tissues, whether by extension or by dissemination. During the ten years which have elapsed since 1872, the question of the intervention of micrococci, which was then strange even to a professed pathologist, has become familiar to every one, and now the tendency exists to believe that germs explain everything; so that, whereas formerly one had to vindicate the very existence of such things as parts of pathological processes, it has now become one's business to protest, with all needful vehemence, against the attribution to them of functions which they did not possess. It will perhaps tend to clearness (which, in relation to so complicated an inquiry, is a matter of moment), as well as to the saving of time, if I submit to you at once the propositions which seem to represent the actual state of our knowlege on the subject. They are (1) that the exudation of a normal inflammation is not infective; (2) that no organisms endowed with inflammation-producing (for which term the word phlogogenic may be conveniently substituted) functions exist in the atmosphere, or in ordinary aqueous liquids with which our bodies come into contact; (3) that whenever an inflammation becomes infective, it owes that property to chemical change in the exudation liquid, of which the presence of microzymes is a necessary condition; (4) that the introduction into the lymphates, and eventually into the blood-stream, of mycrozymes which have been grown in septic exudations, is one of mechanisms by which the seeds from which secondary or infective inflammations spring, and are disseminated. Thus we attribute to our organisms two distinct functions, and that of conveying it to all parts of the body. What we deny is, that there exists at present any evidence that the infection in question actually originates in any other way than by the development of a septic process inside the organism. These several points I will endeavor to establish on the basis of experiment. — *British Medical Journal.*

THE THERAPEUTICAL ACTION OF ACONITE.

By Edward J. Tilt, M. D.

Aconitine has attracted so much attention of late, that I will mention how large a dose of tincture of aconite (*B. P.*) was given by me in a very severe case of cerebral neuralgia, to a highly nervous lady, at the change of life. One or two attacks occurred about every week; and the attacks of pain were so severe that she was obliged to stop in bed, and in a dark room for two or three days—the pain being sometimes accompanied by vomiting, oftener by salivation. There was but little dark colored urine passed at the beginning of the attack, and it ended by an abundant flow of limpid urine. The liability to these attacks has now lasted twelve years, and they still occur. What was suggested by Dr. Handfield Jones, Dr. Russell Reynolds, and Dr. Ogle had not the slightest effect on the attacks. The application of six leeches to the temples shortened them; going out of town kept them in abeyance, once for six weeks; and the only medicine that did the same was aconite. The patient took the tincture of aconite in an aromatic infusion, for sixteen weeks, beginning with five drops, and gradually increasing the dose till she took twenty-five drops, three times a day. That dose caused so great a sense of fulness in the throat, and of tingling and numbness of the of the tongue, that I lowered it to twenty drops, three times a day, which caused only slight physiological effects. The remedy kept off the attacks for two, three, and once for four weeks; but it did not in the least diminish the intensity of the attacks. I, therefore, thought a sixteen week's trial of a dangerous medicine sufficient, and gave up its use.

As I am not aware that tincture of aconite has ever been given in such large doses, I will add that the prescription was made up at a respectable druggist's in Kensington, and that I am quite sure my patient took the doses I have mentioned. Whether my patient's idiosyncrasy made her able to bear large doses of aconite, or whether there was something wrong in the tincture, I cannot say; but I should follow the same course in a similar case. Dr. Greenhalg told me he once nearly lost a patient, to whom he had ordered an enema containing nine drops of tincture of aconite.—*Brit. Med. Jour.*

NERVOUS DISTURBANCES IN THE PRIMARY AND SECONDARY STAGES OF SYPHILIS.—The *Deutcke Medizinal Zeitung* of April 6th, 1882, contains the following review of articles published by Dr. E. Finger, of Vienna in the *Allgemeine Med. Zeitung*, No 5, 1881, and the *Vierteljahrschrift f. Dermatologie u. Syphilis*, 1881. Dr.

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[1] "Micro-Organisms in Surgical Diseases," British Medical Journal, March 12th. 1881.

[2] "On the Infective Product of Acute Inflammation," Med. Chir. Trans., vol. vi., p. 345.

Finger has invariably observed in syphilitics, during the eruption and in the course of the primary exanthem, an alteration of reflex excitability, which becomes pronounced a little before or at the time of the eruption, and remains for some time at its height, returning again to the normal at the completion of the eruption, or even (as more frequently happens) sinking almost below the normal, often, in fact, falling to naught, then gradually rising again in the course of a few weeks, to its normal height. The degree of fluctuation depends upon the sex, individual peculiarities, and the course of the lues; it was small in women and persons presenting naturally a low degree of reflex irritability; and more marked in vigorous and profuse eruptions of the syphilides. Subsequent eruptions of the exanthem are attended by a renewed increase of the reflex irritability, and in certain cases, where regional eruption appear, the variation in reflex manifestations are also limited to one locality: *e.g.*, in a psoriasis plantaris, it is exhibited only in the ankle and knee phenomena, and in a papular eruption on the scrotum, it is limited to the cremaster-reflex.

In explanation of this phenomenon, the author is inclined to consider it as only a functional disturbance, which can be explained by the supposition of a hyperemia, and probably also a serous infiltration of the spinal cord and its inverting membrane. Still, he added, that a definite opinion with regard to it cannot be given until a thorough investigation has been made of the condition of the sensory and motor conductibility, as well as an accurate anatomical study of the spinal cord in the early period of syphilis. J.M.F.

ACUTE SPINAL PARALYSIS of the adult (Acute Anterior Nephro-Myelitis) developed in the course of Progressive Locomotor Ataxia, by Dr. Raymond examiner of the Faculty, and Dr. P. Oulmont former *Chef de Clinique*. We recently had occasion to observe in a patient of professor Germain Sée whom one of us substituted during his vacation, a medullary affection of a complex nature the obscurity of whose diagnosis merits a discussion which seems to us interesting enough to publish.

Ophilia D. aged 28 years, entered July 13, 1881 the Hotel-Dieu ward Sainte Jeaune, No. 9, service of Professor Sée, substituted by Dr. Raymond. This young woman had lived for three years on the low, and damp ground floor of a furnished hotel in Gelleville, when she was affected with troubles of vision, diplopia, and vertigo when she wished to fix objects. These troubles disappeared at the end of four months. All at once very sharp lightning pains in the lower extremities occurred; also girdle sensations. At last, a month later, pains were felt in the region of the stomach. These pains took the form of gastralgic attacks of extreme violence; they occurred at irregular intervals irrespective of the ingestion of food, and terminated by vomiting. It may be that the lightning pains, and ocular troubles had then ceased, or that they had escaped the attention of the attending physician, for he diagnosticated gastric ulcer, and instituted corresponding treatment. For the past two years he had recourse every day to the subcutaneous injection of morphine.

Under the influence of increasing doses which had arrived as high as 10—12 centigr. per diem, the patient fell into a chronic morphinism which brought her to the last degree of emaciation. One of us called in consultation, diagnosticated locomotor ataxia, the only expression of which were the gastralgic pains, and advised her to enter into his service at the hospital Tenon, which she did about fifteen days afterward.

The day of her entrance to the hospital the diagnosis *tabes dorsalis* was made; the patient had the "headlong gait," spots of complete anæsthesia existed, and there was incontinence of fecal matters.

. In the night which followed her entrance, the patient was taken with a very intense febrile delirium which lasted about eight days. The temperature varied between 39° and 40°. No visceral localization could explain the febrile phenomena.

The muscles in the whole course of the limbs were the seat of sharp pains. At the end of eight days the fever fell, the muscles became atrophied rapidly in the whole extent of the four limits, so much so that nothing more than the skin remained covering the bones. There was no paralysis but by reason of atrophy the patient was doomed to absolute quietness. There was no contracture.

After a month's sojourn at Tenon, the patient entered at Hotel-Dieu where we discovered the following condition:

Actual Condition, Aug. 5 1881.—Figure fresh, with good color, presenting the appearance of health. The trunk and extremities afford, on account of their emaciation, a striking contrast to the face. The patient remains inert in the dorsal decubitus, the head falls upon the chest; she can not raise her body from the couch nor turn over. In the upper extremities there is pronounced atrophy, especially in the fore-arm when it is complete; hands *en griffe;* the wrist flexed upon the fore-arm, and the fingers very much flexed upon the palm and immovable in their flexion. Some slight movements are possible in the fore-arm and arm.

In the lower extremities, the same atrophy especially marked in the calves which have completely disappeared. *Pes equinus* aud immovable in extension; the toes are inactive. There are some slight movements in the leg and thigh. Cutaneous sensibility is intact, indeed the least pressure upon the muscular masses excites sharp pains; a very moderate pressure indeed draws cries from the patient.

Exploration of muscular contractility practiced by Dr. Boudet of paris, with faradic and galvanic currents gave the following results:

In the lower extremities no contractility for either current. In the upper extremities with induced currents, feeble contractility of all the muscles of the fore-arm and hand; the extensors particularly are less excitable. With galvanic currents feebleness is especially marked in the extensors. The lightning pains, girdle sensations and gastralgic attacks have completely disappeared. The *Sphincter ani* is yet incontinent.

Lastly, diplopia and ptosis persist to a certain degree.

During the months of August, September, and October, notable improvement progressively manifests itself. In November, 1881, muscular atrophy and lack of motor power no longer existed in the extremities. The patient could raise her body from the bed; her head moved freely, there remained only a moderate flatness of the fore-arm, the left particularly. The wrist was movable; the digital flexion persisted but diminished. In the lower extremities the thighs regained their normal volume. The patient could raise her legs and flex them on the thighs, but the atrophy of the calves and the *pes quinus* persisted almost without change.

All troubles on the part of the eyes and sphincters disappeared completely; the lightning pains have not returned. To sum up, the history of this patient divides itself into two distinct periods; the first which lasted three years in which gastralgic attacks of great intensity daily tormened the patient. These attacks were accompanied with phenomena which were less striking such as lightning pains, and ocular troubles; the second, which dated from seven months ago, and which beginning with fever and delirium, was followed in a few days by a general atrophy of the trunk and extremities, are atrophy which since then tended slowly to reparation.

Have we to do with two distinct maladies, and what are these maladies? The second period seems without doubt to be related to a spinal paralysis of the adult, an acute anterior nephromyelitis, the classic course of which it reproduces; a febrile beginning, rapid atrophy of all the muscles, then a period of gradual recovery, during which, the atrophy slowly abandoning the most of the muscles which it has touched, becomes localized in certain groups of muscles. If there were troubles of cutaneous sensibility, if the *Sphincter ani* is affected, these phenomena should not be referred to the spinal paralysis, in which they never exist, but as we shall see later, to the preceding malady of which they are the returning symptoms.

As to the muscular pains, if they are always wanting in spinal paralysis of the adult where Bernhardt first noticed them; it is necessary to consider an atrophy of peripheric origen, such as Jaccoud has described; in these cases the artrophic troubles, however, are limited to the region of the affected nerves; it would then be necessary to suppose that all the nerves were affected. As to any other medullary lesion, the only one which can approach our case is the acute ascending paralysis described by Landry. But here the sphincters are involved, and the rapid appearance of bulbar phenomena, tends in a few days to a fatal termination.

As regards the phenomena of the first period, it is perhaps more delicate to ascertain their exact nature. Do they conform to a progressive locomotor ataxia? There would be room for doubt if the gastralgic attacks were alone to be considered. Duchenne of Boulonge, reports two cases in which gastralgic attacks absolutely similar to those of *tabes dorsalis* preceded a spinal paralysis of the adult. These gastragic attacks very violent in nature returned at irregular intervals and lasted for many days, the intervals being periods of complete health, and persisted in one of the cases for five years before the appearance of paralytic phenomena.

But in our case these gastralgic attacks are accompanied by a train of symptoms of peculiar signifigance, ocular troubles, lightning pains, girdle sensations, paralysis of the *sphincter ani*, motor incoordination, plantar anæsthesia, which all pertain to locomotor ataxia.

The history of our patient can then be summed in these terms: a progressive locomotor ataxia, in the course of which is developed an acute spinal paralysis running the ordinary course which this malady takes.

There has long since been recognized, muscular atrophy complicating locomotor ataxia. We recall here the old observations of Duménil, Virchow, Mawthe, etc., and the more recent ones of Charcot, Pierret, etc. In these cases there was to do with an affection slow in its course, without general reaction, presenting all the attributes of typical, progressive muscular atrophy. Moreover in the course of other myelites, chronic, systematic, or not, a similar complication has been observed. There has also been shown the possibility of the development of an acute diffuse myelitis in the course of locomotor ataxia (case of Hayem's). Our case shows that an acute myelitis of the anterior horns can also complicate *tabes dorsalis*. It is important to remark that all the symptoms of ataxia disappeared with the appearance of the spinal paralysis.

We have said that the patient was profoundly morphinized, and moreover, that she dwelt in a moist apartment on the ground floor. It is easy to comprehend that a spine already affected, should, under the influence of morphine and the cold dampness, undergo further morbid change, localizing itself in the anterior horns, as in our case. by acute inflammatory action.—*Gazette Médicale.*

C.E.C.

DIAGNOSIS OF CEREBRAL CONTUSION.—In a clinical lecture in *Le Progrès Médical* (No. 6), M. Duplay distinguishes between the signs of commotion of the cerebral substance from an injury and those properly belonging to contusion of the brain, which are generally confounded or grouped together. He concludes that in some cases we may suspect contusion in an individual who, at the same time with the symptoms of commotion, presents convulsions, contractures,—say of the muscles of the face,—or paralysis of one side of the body or of certain muscular groups; but in the majority of cases, and for a certain length of time, in order to affirm the existence of a contusion, it will be necessary to await the onset of symptoms of inflammation.

The signs that have hitherto been given as belonging to contusion of the brain by all writers upon the subject are mainly those arising from commotion of the brain. Contractures of muscle which are more or less general,—*i.e.*, not definitely localized so as to correspond with lesions of the well known cortical centres,—however, are probably due to irritation of the nerves of the dura mater,—a condition also capable of explaining certain vascular reflexes, such as spasms or congestive paralyses of the vessels of the cerebral hemispheres or of the optic globes. This point should be borne in mind in the diagnosis from the ophthalmoscopic appearances of the retina, in order not to attribute to cerebral disease what in reality is due to congestion or inflammation of the meninges.—*Philadelphia Med. Times.*

TREATMENT OF GONORHŒA BY THE INTERNAL ADMINISTRATION OF CHLORATE OF POTASH.—Zeitlin (*Med-chirurg. Rundschau*, May, 1881) has treated fourteen cases of uncomplicated urethritis with chlorate of potash, given internally in daily amounts of three grammes, as recommended by Dochman. The results have been uniformly favorable. After a few doses, pain and erections ceased, the discharge became less free and thinner, and a cure was soon obtained without the intervention of any of the disagreeable and serious symptoms (hæmoglobinuria, collapse, etc.), which of late have so frequently been attributed to chlorate of potash. The action of the remedy is due to its rapid excretion by the kidneys in an unchanged form, and its local effect upon the urethral mucous membrane. It may be remembered that the drug has also been used in the form of urethral injections, and has been given internally in cystitis, whether of gonorrhœal or other organ, with good results.—*Canada Med. Record.*

DIABETIC OTITIS.—Otitis is an occasional complication of the diabetic dyscrasia. In a case reported by Dr. Raynard the otitis was limited to the middle ear, and gave rise to a sero-purulent discharge which showed no trace of sugar. He adds that in this case the inflammation of the tympanic cavity was kept up by an ostitis of the mastoid process. This however is not always the fact, as the inflammation of the auditory organ may be strictly primary.—*Jour. des Connais. Med.* June, 1881.

ON THE USES OF DIGITALIS.—During the treatment with digitalis of a case of pericarditis with cardiac dilatation and hypertrophy, Prof. V. Ziemssen thus spoke of the employment of digitalis in relation to weakness of the heart with dilitation: Digitalis acts most surely when given in the form of powder, and as a cardiac tonic in doses of 0·05 gramme to at most 0·1 gramme thrice a day. He observed, parenthetically, that the leaves gathered in Munich and Upper Bavaria were extraordinarily rich in the alkaloid. The infusion (0·5: 150·0) is the next best preparation after the powder; the tinctures are of uncertain strength and should therefore be avoided. Digitalis itself is very unequal in its action, and its use is not unattended with danger, as it contains other alkaloids, of which the digito-toxin of Schmiedeberg appears to be most active. The tonic and regulating action of the drug upon an enfeebled heart is shown in chronic cases after the administration of 1·0—1·5 gramme, and is well marked after 8—10 days. The drug should then be withheld for a week, after which it may again be given for 6—10 days. There is scarcely a drug in the whole pharmacopœia, he then went on to say, which acts with equal rapidity upon so complicated an apparatus as is the heart. The use of digitalis in chronic myocarditis, in fatty degeneration of the heart, in disturbances of the compensation due to valvular lesions, etc., resulting in stasis of the pulmonary and general circulations, is not yet sufficiently appreciated by general practitioners; especially as regards the results which may be obtained from its long-continued and methodical administration in small doses.—*Aerztliches Intellig. Blatt*, No. 34, 1881; *Med. Chir. Rundschau*, Oct. 1881. [*Pract.* xxviii. 53.]

CHLORIDE OF AMMONIUM IN DIABETES AND IN HEALTH.—Adamkievics, acting on the theory that protein, the fundamental sustenance of the organism, may be regarded as the resultant of sugar and ammonia, has made a series of experiments upon diabetics in the hope of reducing the morbid production of sugar by administering to them ammoniacal compounds. From his first series of experiments made on healthy men he draws the following conclusions: (1) Ammonium chloride is decomposed in the intestine of the healthy man; the greater part of the resulting ammonia is absorbed and probably reappears in the urine in the form of albumen; (2) Ammonium chloride acts exactly like sodium chloride; it is dehydrated in the tissues and favors the decomposition of albumen; (3) The decomposition of albumen and the excretion of ammonia do not proceed *pari passu*. In the second series made on diabetics he remarks that (1) Ammonia is quickly metabolised in them, and its assimilation coincides with the metabolism of the abnormal sugar, so that in slight cases the sugar may disappear from the urine; (2) So long as the sugar is not completely metabolized the ammonia absorbed does not increase the quantity of water or of urea excreted; but so soon as the sugar disappears, both water and urea at once increase. This he takes to be a convincing proof that a part of the ammonia is converted into urea and is excreted as such.—*Virchow's Archiv*, Nov. 1881. [*Pract.* xxvii. 49.]

RELIEF OF PAIN IN LEAD-COLIC.—Dr. Geneuil, in the *Bull. de Thérap.*, relates a case where he succeeded in giving complete and permanent relief to the terrible pains of lead-colic by a very simple procedure. A towel wetted with ice water was placed over the abdomen and retained for a few seconds, and then replaced by a very hot dry towel. The pain immediately disappeared. The patient was an inveterate smoker, and the cause of the colic was probably due to the use of matches colored with chromate of lead in lighting his pipe.—*Louisville Med. News.*

THE celebrated anatomist Hyrtl was once busily engaged in dissecting in the anatomical rooms of the Vienna Hospital. A guard of military police came into the neighboring court on which the windows of Hyrtl's room looked. They began to go through their evolutions, when Hyrtl threw open the window in a rage and cried out, "Withdraw, you slaves; disturb not with your fanfaronade the quiet of the dead."—*Med. Times and Gazette.*

SURGERY.

Poisoning by the Surgical use of Carbolic Acid.—Dr. Inglessi has condensed the published observations on this subject by foreign authors, especially those of the Germans, where the carbolic acid dressings have been attended with toxic effects. The conclusions he arrived at are these:

1. The symptoms of poisoning by the external application of carbolic acid are in reality the same as those which arise from the absorption of the poison from the gastric mucous membrane.

2. The poisoning occurs with greater certainty where the acid has been applied to the skin or injected into a serous or mucous cavity or the cavity of an abscess. Upon the exposed surface of a wound the absorption is very slight and the toxic effects too trifling to be feared. The mucous membrane of the respiratory passages may serve as the place of introduction of the poison.

3. The toxic effects may assume one of several forms: 1. A very acute form; 2. A less acute form; 3. A chronic form.

4. There exists, in regard to the greater or less facility with which this poisoning is produced, certian idiosyncrasies; women and children are especially liable to it.

5. The toxic dose is variable. In persons predisposed to its effects, the accident may occur from one grain of carbolic acid.

6. Carbolic acid need not be rejected as a dressing for open wounds, but as an application to contused wounds, it should be used with caution; and in some cases this agent should even be substituted by a less dangerous antiseptic agent.

7. In a case of severe poisoning by this agent, the treatment should consist in the maintenance of artificial respiration, the administration of the diffusible stimulants, and especially the hypodermic injection of ether. In other cases the removal of the cause—the discontinuance of the remedy—will suffice.—*Bull. gen. de Ther.—Se Mèdècine Practicien.*

Experimental Study of Septicemia.—Dr. J. A. Rosenberger, Instructor in surgery at the University of Würtzburg, while investigating the subject of septicemia in the laboratory of pharmacology, endeavors to illume the question, "is it possible to inoculate an animal with the serum or the mixed blood of another animal that has died of septicemia after cooking these fluids (the blood or serum used)." For this purpose he cooked large quantities of blood highly charged with septic poison, filtered and evaporated it, and injected it into animals. These all died, and the autopsy revealed the evidences of septicemia. In their blood and tissue-fluids were also found minute organisms, in the same quantities as were found in animals killed by septic fluids that had not been cooked. He further injected only one centimetre of blood, or tissue fluid from animals that had been killed by the cooked septic fluid into other animals, and these died of septicemia, showing the signs of as high a degree of infection as did the animals previously inoculated by the fluid not cooked. In order to be absolutely sure that there were no organisms in the cooked and evaporated septic fluid, it was allowed to remain in the evaporating-vessel two hours longer at a temperature of 140° C. (284° F.), and for injecting, a new syringe, previously disinfected with carbolic acid and absolute alcohol, was employed. For further certainty some of the poison treated as above described, was put into a closely stoppered retort and placed in the evaporating-dish and after remaining there the length of time named above, was put directly into a hatching-oven. In the same manner, one drop of cooked virus was added to a one per cent solution of beef-extract which had been put through the germ-killing process just described and the whole placed in the hatching-oven. Both fluids remained for a week clear and free from organisms. In the cooked virus, too, there were no micro-organisms and no germs.

The author then injected the cooked poison of malignant pustule (Pasteur's septicemia), as well as that of decomposed blood (Davaine's septicemia) into various animals and found after the death of the animals, by the aid of the microscope, precisely the same micro-organisms as were found in the fluid taken before being cooked; there were in the animals destroyed by the cooked septic fluid the same specific septic bacteria as before the cooking.

From these facts the author concludes that the *bacteria are not primary, but secondary*, that they always first get their virulence by coming in contact with some chemical or inorganic poison. The bacteria are, however, the only possible bearers of the poison in living animals, as it can find no other place in the body for development for it is afterwards shown that no organisms or germs could have been introduced from without. —*Cbl. für de Med. Wissensch.—Deutsche Med. Zeitung.*

J.M.F.

Epithelial Cancer Radically Cured.—It is claimed and taught by Prof. Garretson that epithelial cancer is curable through wide removal of an affected part and replacement of the abated tissue by a flap brought from the greatest possible distance. This treatment is substantiated by examples running back thirteen years.

On Saturday, February 18, an extreme illustration was brought before the clinical class of the Oral Hospital and a number of surgeons, where the disease involved both eyelids of the right side, extending well down upon the cheek, the contents of the orbit, including the internal and inferior bony floor, both nasal bones, the perpendicular lamella and cribriform plate of the os ethmoides, and, finally, the internal angular process of the frontal bone. That epithelioma so related could not but prove quickly fatal is not to be doubted. The patient, a rugged man, showing no signs of cachexia, understood this, and was very desirous that an attempt should be made to save him. With such appreciation on his part, the clinician suggested that both for the patient's and for humanity's sake he would do the plastic procedure, as it offered the only possible chance for life, while at the same time it was a case that would do much to distinguish the boundary of good lying in the performance.

Etherization being secured, a section begun over the frontal prominence was carried down the nose to the ala and across the cheek to the angle of the jaw. Going back to the place of departure, an incision through the integument was made across the temporo-zygomatic region, ending finally beneath the ear. The soft parts involved in these lines were next dissected out. Examination now passed to the condition of the bony parts, with a result of finding conditions as described. An immediately succeeding step in the operation consisted in removal of the eye and its apendages. Following this the surgical engine, with its armature of an oval burr, was brought into requisition. The orbital floor, side, and part of roof, together with cribriform and perpendicular plates of ethmoidal bone, were removed. [The attention of surgeons cannot too frequently be called to the virtue lying in this engine. The movements of it are so delicate and trustworthy that, while the burr in this case was revolving fifteen thousand times to a minute, and the operator was exposing the olfactory lobes of the brain, his speech, and apparently his attention, were directed to persons with whom he was conversing.] The diseased parts all gotten clear of, a great flap, having its pedicle about the region of the ear and its termination over the scapula, was turned and stitched into the place before occupied by the parts removed. Three days later a crucial incision was made into that portion of the flap overlying the orbit, and the four ears thus secured were worked around the circumference of the cavity, being retained in position by a conical sponge compress, supported in turn by the monoculus bandage.—*Medical Times.*

IODOFORM IN ENGLISH ANTISEPTIC SURGERY.—As our readers are aware, Prof. Lister made some experiments during the past year with various preparations of eucalyptol, and he is at present testing the suitability of iodoform. Iodoform is chemically nearly related to chloroform, the formulæ differing only in the substitution of the one halogen for the other (Iodoform$=$C H I$_3$). Both bodies have powerful antiseptic properties, the addition of less than 1 per cent of chloroform, for instance, to an animal or vegetable infusion will prevent decomposition for, at least, many months. Iodoform occurs in the form of a dense yellow crystalline powder. Hence it is more convenient than any other ordinary antiseptic for the treatment of local sores, for introducing into chronic sinuses or into scrofulous joints after incision; but it is not easy of application to an amputation or to most other operation wound; and is quite unsuitable for use with the spray. For this reason Prof. Lister still operates under the carbolic acid spray, though he now seems to attach rather less importance to its continuous use, and will stop it, for instance, for a short time during an operation if the cloud it produces be found to interfere with a clear view of the wound. The dressings used consist of cotton-wool impregnated with iodoform, and the drug itself is, in certain cases, powdered over the wound from a sprinkling-box. "Iodoform wool" has also been extensively used at University College Hospital, and we learn from Mr. Gerard, pharmacist to that hospital, that the great difficulty encountered in preparing the wool is to obtain an even distribution of the iodoform. The desired end is best obtained by treating the powdered drug with ether, in the proportion of about eighty-eight parts of ether to eight of iodoform. In about four pints of this mixture, half a pound of fine, clean cotton-wool is soaked for a short time; the wool is afterward placed in a drug-press. About three pints of ether can be squeezed out, and, when dry, the wool contains about ten per cent of iodoform. The same objection is made against this wool as against salicylic wool, namely, that its use spreads about the room an irritating dust, with this further disadvantage, that the odor is to most people very offensive. A little glycerine added to the ether used in its preparation, checks the former tendency, and the latter drawback is minimised by the addition of eucalyptus oil. The wool ought to be stored in air-tight boxes, and not handled more than necessary before use. It is too early as yet, to speak decisively of the value of this antiseptic from experience gained in England, but we believe that it has given a good deal of satisfaction to those who have used it, and has proved itself especially valuable in cases where carbolic acid is, either from iodosyncrasy or from the delicate nature of the parts involved, too irritating to be borne.—*British Medical Journal.*

NERVE-STRETCHING IN GERMANY.—Langenbuch's paper on "Nerve-Stretching" appears to have created considerable interest and discussion, the results being of a decidedly negative character. The last number of the *Berlin Klin. Wochenschrift* publishes the discussion at the leading medical society in Germany, from which we give our readers a brief summary.

Dr. Westphal, who spoke at great length on this paper, stated that since 1877, when his first nerve-stretching case was undertaken, he had not a single case in which the operation had improved a patient, on the contrary, patients with tabes dorsalis, tabes dorsalis spastica, paralysis agitans, and neuralgias of all kinds were rendered much worse after their nerves had been stretched, and a detailed account of each case was given. In one case Dr. Langenbuch had operated seven times in six months upon one patient, viz., both crural nerves, both sciatics, were stretched, a piece was cut out of the peroneal, another out of the plantar nerve, and lastly, his great toe was amputated, being the chief seat of the pain, but without in the slightest bettering the patient's condition. The celebrated case published by Nussbaum, of successful stretching of an intercostal nerve for neuralgia was not such a complete success after all, as he (Westphal) had seen the man shortly after, and he assured him that the pain was as bad as ever, in fact, his screams kept the whole household awake at night, and he was informed that this was only the result of his not being allowed any more morphia, to which he had been addicted before the operation; if anything, he was now worse. Westphal believes that the so-called "results" are the effect psychologically upon the patient of the undergoing a great operation which he is assured must prove successful in his case, and from the sanguine view which ataxic patients take of their condition; they are only too ready to declare themselves better if required. Remak's results in the use of the continued current upon ataxic patients were truly marvellous, but were only the effect of his own enthusiasm with which he managed to inflame his patients, purely psychical effects therefore.

Dr. Bardeleben stated that he had performed nerve-strecthing very frequently, but only when asked to do so; the medical cases were sent to the surgical department of the Charité to be stretched, so he did not refuse, leaving the responsibility of deciding the indications for the operation to his medical colleagues. It was a good method for showing the steps of the operation to students and also of demonstrating the brachial plexus and its relations on the living subject when the upper extremities were to be operated upon! He could also testify to the accuracy of Dr. Westphal's remarks about Nussbaum's case, and he had never seen good results follow the operation of nerve-stretching, but of course improvement would take place in the method of operating, etc., and we might hope at some future date to hear of successful cases.—*Med. Press and Circular.*

OBSTETRICS.

An Early Symptom of Pregnancy.—It is in no spirit of boasting that I strongly insist upon the importance of a symptom as indicative of the beginning of pregnancy. I refer to the almost complete disappearance of the phosphates from the urine. Were we to investigate the cause of their being thus retained we should doubtless find that they are in no small degree required for the development of the fetus in the earlier part of pregnancy. They condense almost entirely into the formation of the bones, increasing the density of their surfaces by the formation of osteophytes, for a long time erroneously considered the result of an error in nutrition. In the late months, the fetus develops rapidly, these reserves are attached, the bones tend to increase their primitive weight, the osteophytes gradually diminish and finally disappear. In the earlier months of nursing, they are required to maintain in proper proportion the phosphates of the milk.

This also happens when the woman is strong and well nourished. In a contrary manner, however, and these are the cases which always occur in the cities and great industrial centres, the mother, far from laying up such reserves, appropriates from her own substance, material for the nourishment of the fetus. She wastes away and gives life to a miserable being, which her impoverished milk is wholly unfit to nourish. If now the organism be supplied with the phosphates which it thus loses, we shall see the pregnant woman recover her strength and give life to a new being under normal conditions of health and resistance. This is no longer a mere theory, but it is also practical, for I have had the fortune to observe good results, nine times in ten, following the administration of the phosphate of lime.

Among other facts in proof of this, I will cite the example of a family of four children, the first two of whom, of ordinary strength, were of the lympatic type, deficient in both mental and physical vigor, with palor and inactivity of the skin, etc., while the other two, born a long time after these, and at a time when the mother was in an enfeebled state, from the effects of a nervous disorder, were nevertheless vigorous, noisy children, with beautiful, healthy, complexions. I attribute this difference of condition to the administration, during the last two pregnancies, of the phosphate of lime in the form which I consider most physiological, namely, in the form of a syrup or the wine of Dusart. The observation is rendered the more conclusive in that the results of the administration of the phosphate of lime was so happy as compared with the condition existing during the former pregnancies.

I have further observed, in many cases, a rapid disappearance of the vomiting in women to whom I have prescribed the syrup or the wine of Dusart; and I have nearly always found the eruption of the teeth to occur more readily and to progress without difficulty in their children. Thus, in the family of a *confrere*, I have seen the first tooth appear in the first two children, at the eleventh month. During the third pregnancy the mother took the phosphate of lime and the child, without any disturbance of its health, cut the two first teeth at a few days after the fourth month.

Let me repeat: I have been able to demonstrate, entirely to the recommendation of phosphate of lime, the comparison between infants that have followed pregnancies deprived of the only aid to nature, and those that have been blessed by the administration of the element which presides over the formation of muscle as well as of the osseous system.—Dr. Delattre in *Gazette des Hospitaux.* J.M.F.

Local Treatment of Chronic Metritis.—Prof. Amann, of Munich, read a paper on this subject at the London Congress, of which the following is an abstract:—

Most cases of chronic metritis require local treatment for their cure. If the disease be limited to the mucous membrane of the cervical canal the treatment is comparatively simple, and cure can be affected by various harmless means. Greater difficulty is met with when chronic inflammation of the body or of the body and neck of the uterus calls for local treatment. For many years I have carefully tested the various means recommended during the last twenty years in the treatment of the affection in question in hospital and private practice, in more than 3000 cases, and have come to the conviction that only one method acts with certainity without being troublesome and *dangerous.* This is new only in the manner of its execution, and consists in the systematic cauterization of the cavity of the body and eventually of the cervix of the uterus by means of an instrument like a sound, into a hollow in the upper end of which is fused *lapis mitigatus*. This can be employed, as is self-evident, according to the behavior of the endometrium, and the resisting power of the uterus in individual cases, at one time more frequently and thoroughly, at another more rarely and cautiously, and will have, according to the peculiarities of the special case, by itself alone, or in conjunction with other means (topical blood-letting, scraping off of growths of endometrium), almost sure results. Only in a few cases of large tumors or severe bleeding granulations of the endometrium is the employment of the galvano-cautery or thermo-cautery necessary. The intra-uterine application of *lapis mitigatus* is, with the necessary caution, absolutely free from danger, and in a small number of cases only does it cause pain, which, however, is of short duration; sometimes also it gives rise to considerable but transient bleeding. Once only have I noticed, after a mere cauterization of the whole of the uterine cavity, dangerous metritis or perimetritis, which, however, ended in a few weeks in complete recovery. Even slighter degrees of acute endometritis and acute metritis occur according to my experience in barely 2 per cent. of all the cases.—*Canada Med. Record.*

OPHTHALMOLOGY—OTOLOGY.

COUNTER-IRRITATION IN THE TREATMENT OF CERTAIN AFFECTIONS OF THE MIDDLE-EAR.—By Albert H. Buck, M. D., of New York City.

A sense of confidence that a certain drug or remedial procedure will produce a given effect, affords the practicing physician the utmost satisfaction. In the comparatively short list of aural remedies and remedial procedures there are very few in which this degree of trust may confidently be reposed, and, among these few, counter-irritation does not at the present time hold a very high rank. It is true that the older authorities—for example, Wilde and Toynbee—advocated the employment of counter-irritation in the treatment of various aural diseases, and from then to the present time it has been the almost universal custom to apply blisters behind the ear for all sorts of aural affections. In fact, there are not a few general practitioners who make a regular practice, in all cases in which their advice is sought for the relief of deafness, tinnitus, or any other aural symptom, of first syringing the external auditory canal, and then, if that fails, of blistering the skin throughout an extensive area around the ear. They make no serious effort to ascertain the real nature of the disease, and employ these two procedures in a perfectly haphazard manner. I am disposed to believe that the frequent observation of the barren results following this practice of indiscriminate blistering, influenced many of my fellow specialists, as it did me at one time, to consider this uncomfortable therapeutic procedure as well-nigh impotent to relieve a single one of the aural affections for which it is so often used. It is also probably for the same reason that so little is said about the use of counter-irritation in almost all of the treatises on otology which have been published since the time of Toynbee and Wilde. My own experience during recent years leads me to place a higher value upon counter-irritation than I was at one time willing to concede to it; and, from conversations which I have held with some of my colleagues, I think I am justified in saying that this opinion of the value of counter-irritation in certain forms of disease of the ear, is that held by not a few of the aural specialists of this country.

The class of cases in which I find counter-irritation particularly useful comprises all those in which the vessels of the middle-ear and immediate neighborhood remain more or less gorged with blood long after the disappearance of pain in the affected region. This passage congestion of the middle-ear is observed in its simplest and most easily controlled form in the later stages of an acute catarrhal inflammation of the middle-ear, and is then often associated with a free exudation of serum or mucous in the tympanic cavity. It is observed in a more obstinate form in a few cases of chronic catarrhal inflammation of the middle-ear, associated with, and apparently dependent upon, a high degree of congestion of the naso-pharyngeal mucous membrane. In the treatment of cases like these counter-irritation often proves of decided value. I would not go so far as to say that we can depend upon its curative efficacy alone, but would simply claim for it the power to materially enhance the good effects of the naso-pharyngeal treatment. In some cases even I have noted the fact that, despite a prolonged course of naso-pharyngeal treatment, and a systematic employment of Politzer's method of inflating the middle-ear, no demonstrable diminution in the quantity of the exudation in the tympanic cavity, or in the degree of congestion of the manubrial and peripheral blood-vessels of the drum membrane, took place until after counter-irritation in the mastoid region had been practiced systematically for a longer or shorter period of time.

In infants and young children sufficient counter-irritation may usuually be obtained by painting the skin over the mastoid process once or twice daily with two or three coats of the tincture of iodine. As soon as decided soreness is produced, the skin should be allowed to remain quiet for three or four days before the applications are resumed. From the progress of the case it will be an easy matter to decide how long this mode of counter-irritation should be kept up. In adults it is also sometimes possible to produce a sufficient degree of irritation of the mastoid integuments by means of the tincture of iodine, but as a rule it is better to resort at once to the application of the ordinary Spanish fly blistering plaster or of Squibb's cantharidal collodion. I prefer the latter, and usually apply at least three or four coats to the skin behind the ear, taking the precaution—and this is an important part of the procedure—to cover well the freshly painted skin with a piece of rubber plaster. If Husband's plaster or ordinary court plaster be used instead, care must be taken to keep up slight pressure over the part for a few hours, or we may fail in our efforts to produce an actual blister. It is not necessary to apply a blister larger than one and a half inches by five eighths of an inch. It is also advisable not to apply the blistering material later than two or three o'clock in the afternoon, as from five to seven or eight hours are usually required for the formation of a well-marked collection of serum. When such a sac has formed, its contents should be evacuated, as much of the dead cuticle should be removed as may be possible, and the raw surface should be dressed with vaseline or with simple cerate. For so long a period as may be found necessary, a fresh blister should be applied on every fifth or sixth day, according to the condition of the skin behind the ear. So far as I can remember, I have never applied to one and the same mastoid region a series of more than six or seven blisters. By that time either I have found that the evidences of congestion of the middle ear had disappeared, or I have lost faith in the efficacy of the procedure to produce the desired effect.—*Amer. Jour. of Otology.*

SALICYLATE OF CHINOLINE IN OTORRHŒA.—By Charles H. Burnett, M. D. Preliminary communication.

Chinoline is a somewhat distant relation of resorcin. Its formula is $C_6 H_7 N$. and it is the first of a homologous series of eight similarly constituted alkaloids, each member of which differs from its predecessor by the addition of $C H_2$. It is a transparent, colorless, oily fluid, sparingly soluble in cold water, but more freely soluble in hot water. It mixes in all proportions with alcohol and ether. It is made from coal tar, is an energetic bacteria poison in a one fifth of a one per cent. solution, and in the same proportion it prevents lactic acid fermentation. It forms several salts, among which the tartrate and salicylate are both colorless. the former occuring in the form of small acicular crystals, whilst the latter is an *amorphous powder.* [1]

The latter powder is creamy white, has an aromatic odor, and is well adapted for insufflation, being far superior in this respect to resorcin. It is disinfectant, non-irritant, detergent, and quite as healing as resorcin. I have employed it pure, as a powder for insufflation, in several cases of otorrhœa, without ill effect, and apparently with good effect; but the comparatively short experience will not permit very positive assertions in the latter respect. A longer experience with resorcin shows that salicylate of chinoline compares very favorably with it in therapeutic effect, and that the latter is far superior to it as a powder for insufflation. Under the local use of each the mucous membranes are blanched quickly—most so by resorcin—and remain so for twenty-four hours, become cleaner, and cease to pour forth discharge to the extent they did before the application to them of the salicylate of chinoline.

The preparation of this salt which I have employed was made by Trommsdorf, in Erfurt, and costs at present forty cents a drachm.—*American Journal of Otology.*

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[1] See article by Professor Sadtler, *Amer. Journal of Pharmacy*, Feb., 1882, page 68.

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Cincinnati, May 13th, 1882.

The Week.

KOCH.—THE ETIOLOGY OF TUBERCULOSIS.—At a meeting of the Physiological Society at Berlin on the 24th of March, Dr. Robert Koch read a paper on this subject, giving to the society the results of his numerous experiments for the isolation of the tubercle virus. The paper created a very considerable stir at the time, and the few weeks that have elapsed since its publication have already gained for it and its deserving author a world-wide reputation. So important is the subject in its bearing upon sanitary laws, so fruitful does the discovery promise to be in regard to therapeutics, that even the secular press has everywhere gladly opened its columns to a subject of an import at once practical and scientific. All students of pathology will gladly welcome what promises to be a solution of one of the most vexed and most unsatisfactory problems of their science from the time of Virchow and Rokitansky to the present day, and if, as some have ventured to foretell, the labors of Koch shall prove the foundation for a new and efficient method of treatment, the whole world must rise in gratitude to the man, whose untiring labors have advanced more than any other the welfare of the human family. Beginning, years ago, his investigations of the mode of life and of the influence of the microscopic organisms to which modern medical science is inclined to attach an ever-increasing importance, he made some of his earliest contributions to the literature of this subject in "Cohn's Beiträge zur Biologie der Pflauzen," and came most prominently before the scientific world in connection with his researches on the inter-conversion of the Hay-Bacillus and the Bacillus of Anthrax, showing how under the influence of peculiar conditions, especially of modifications of temperature, the comparatively innocent Hay-Bacillus might assume the most virulent character and lead to all the symptoms of that formidable malady, anthrax. His last discovery, and it has already been confirmed in every particular by at least one authority, bids fair, however, to eclipse all his previous labors, and should subsequent investigations attest its truth; it will entitle him to the first place among the benefactors of the human race. The article is published in No. 15 of the *Berliner Klinische Wochenschrift* and gives explicitly, yet without unnecessary detail, a thorough description of the method employed and the results obtained from it. It is not by any means a new doctrine, that of the dependence of tuberculosis on minute organisms, yet never before, as Koch clearly demonstrates, has the isolation of these organisms and their artificial culture been successfully effected. The employment of improved methods of illumination by means of condensers and the patient trials of many coloring re-agents have at last succeeded in solving the problem; the higher value is to be attached to the coloring matter, which, when properly applied, seems to exercise a peculiar affinity for the bacillus of tubercle, which retains it when all other parts of the field have been decolorized. As stated by Waldeyer, the only requisite for new discoveries in microscopy, is the finding of new coloring reagents or of applying to new uses those we already possess. The method employed in this case was to spread out the material to be examined on a cover glass, to dry and heat, or, if portions of tissue were to be examined these were prepared by hardening in alcohol and making sections in the usual way. The cover glasses or sections were then placed in the following coloring material. To 200 c.c. of distilled water is added 1 c.c. of a concentrated alcoholic solution of methylene blue, the mixture well shaken, and to the mixture 0.2 c.c. of a ten per cent. solution of caustic potash is added. This mixture should give no precipitate after standing for many days. The objects to be stained are left in the solution for from twenty to twenty-four hours. If the staining fluid be warmed to 104° F. the time may be reduced to one-half or one hour. The cover glasses or sections should have a dark blue color when removed from the staining fluid. They are now treated with a concentrated solution of Vesuvin in water, the solution being filtered every time before use, and then rinsed with distilled water. After treatment with Vesuvin the blue coloration disappears and is replaced by a faint brown. Under the microscope all portions of tissue, particularly the nuclei of cells are of a faint brown color, while the bacteria of tubercle remain of a beautiful blue tint. All other bacteria, except those of leprosy, become brown in color by this process. The contrast between this blue color of the bacteria and the brown of all remaining portions of the field is so great that there is no difficulty in recognizing the former even when present in small numbers. The bacteria thus rendered visible are rod-shaped, from one-fourth to one-half as long as red blood corpuscles, occasionally a little longer, and are very similar in size and shape to the bacteria of leprosy, which are however a little more slender and pointed at the extremities and differ also in reaction with certain coloring fluids.

These bacteria were found in the neighborhood of all rapidly growing tubercle and seemed to diminish in number with the age of the process; they occurred in the substance of the cells and the giant cells were one of the most common seats, where they occur singly or in groups. Under favorable circumstances they form spores, each bacillus containing from two to four spores placed along it at regular intervals. An idea may be formed of the time and labor involved in the experiments by merely recapitulating the material examined.

From the human subject 11 cases of miliary tuberculosis, 12 of caseous pneumonia, 1 of solitary tubercle of the brain, 2 of tuberculosis of the intestine, 3 of recently extirpated scrofulous glands, and 4 of fungous disease of joints; and 13 or 14 of the "Perlsucht" of cattle. In the course of his experiments 172 guinea pigs, 32 rabbits and 5 cats were sacrificed. Without entering more extensively into the minutiæ which are given with remarkable clearness in the original article, it may briefly be stated that in all of these cases the peculiar bacillus of tubercle with its characteristic reaction was met with and was capable of producing a similar disease when introduced by inoculation into the bodies of other animals. The bacillus from these various sources was also capable of artificial cultivation outside the body and the culture fluids were found to be equally effective in reproducing the disease as the original material employed; from which Koch concludes that the bacillus being always found in tubercular deposits, and causing such deposits when introduced from without, must fairly be considered as the causative agent in the production of the disease. Of the highest importance is the fact that bacilli exist in the sputa of tuberculous patients and retain their vitality after these sputa have been dried; and they have never been found in the sputa of those not suffering from the malady; occasionally these bacilli contained spores, which would readily explain the diffusion of the disease and the mode of entrance of the organism into the body; doubtless in the vast majority of cases this occurs by means of the inspired air, The only objection to these experiments, painstaking and conscientious as the author is acknowledged to be, would be that the animals used are known to become the subjects of tuberculosis on very slight injury, and that therefore much of the value which would otherwise be attached to them must be withheld until more ample proof shall have substantiated their truth. Guinea pigs and rabbits are the favorite subjects of the pathological laboratory, but because of what we know concerning their liability to tuberculosis we should be more cautious in receiving and supporting such a doctrine as the present one. It is very tempting to enter into speculations on the possibilities which the new discovery opens to medicine, but the wiser course is to wait for further proof. It would not be the first instance in which a discovery of great magnitude has been found to be misinterpreted in many important particulars and conclusions apparently logical in their deduction, have been disproven by subsequent research. Whatever remote good may and, it is to be hoped, ultimately will accrue to the world from the facts just brought to light, it is certain that the immediate effect cannot fail to be beneficial by stimulating many to further research in a subject of most vital importance to the public health, and by directing these inquiries into a hitherto unexplored channel. The labors of Koch are the outcome of the labors of Lister, Pasteur, Toussaint, Bouley and Davaine; they promise to the human race what was attempted and successfully accomplished for our domestic animals; if their truth be corroborated, they will immortalize the name of the man, in comparison with whose work the fruitful discovery of Jenner must take a second place; if disproven, they will yet mark an era in the progress of our science, and will show the world that medicine, while it cannot yet rank with many other exact sciences, is earnestly and constantly striving to discover, not abstruse principles, but those points which involve most nearly the happiness and preservation of the race.

J.E.

SMALL-POX IN CINCINNATI.—At a meeting of the Academy of Medicine, last Monday evening, the subject of small-pox was discussed at length. Dr. J. L. Cleveland presided and Dr. W. H. Wenning Secretary.

It was stated that the authoritative statement of the Academy had been asked on the subject of this loathsome disease. The gentlemen present—and, in fact, all reputable physicians—agree that it is impossible for any one to contract the disease within seven years after a successful vaccination. The members of the Academy do not know of a single exception to this law, and every case in this city has occurred among persons opposed to vaccination.

The Academy also censured the practice of placarding houses as not preventing the disease, and having a tendency to create unnecessary alarm. It is asserted that this practice has been discarded in all the leading cities.

Action of the Cincinnati Medical Society.—At the regular meeting of the Cincinnati Medical Society, last Tuesday evening, the following resolution was passed:

WHEREAS, At the present time a degree of alarm exists in the community, resulting from the presence of small-pox in this city, and as such alarm has been unduly increased by the action of certain public bodies, we therefore deem it proper to state that small-pox is not so prevalent now as it has been on former occasions; that the universal experience of the medical profession for the past half century is that vaccination, properly performed, is a preventative of small-pox, and as a demonstration we state that no physician or member of physician's family has been attacked by the disease during the epidemic.

Resolved, That it is the opinion of the members of this Society that the great public alarm in regard to the presence of small-pox in Cincinnati is unnecessary, and is not justified by the extent and spread of the disease, and there is no valid reason why strangers who have been recently revaccinated by well qualified physicians need feel any apprehensions about visiting the city.

G. BRÜHL, M.D., President.
W. H. MCREYNOLDS, M.D., Secretary.

ACADEMY OF MEDICINE. — Dr. Hottendorf will read a paper on Muriate of Pilocarpine in the Treatment of Scarlatina and Diphtheria, on Monday May 15th, 1882.

Miscellany.

A NEW BLOOD CORPUSCLE.—The discovery of a new and important constituent of the mammalian blood has just been announced by a distinguished investigator of blood formation—Professor Bizzozero, of Turin. This new element is not the same as the invisible corpuscle of Norris, but, nevertheless, presents somewhat similar characters. If the course of the circulation is watched in the small vessels in the mesentery of chloralized rabbits and guinea-pigs, there are seen, besides the ordinary red and pale corpuscles, third elements—very pale, oval, or round, disc-shaped or lenticular bodies, one-half or one-third the diameter of the red corpuscles, among which they are scattered. "Blutplattchen," Bizzozero proposes to call them. They have hitherto escaped notice, probably because they are so colorless and translucent, less numerous than the red, and less visible than the white corpuscles; and on account of the difficulty of observing the mammalian blood in the course of the circulation with a high magnifying power. They are to be observed also in freshly drawn blood, for the most part aggregated around the colorless corpuscles, or ascending to the upper layer, they adhere to the cover-glass. They change, however, with great rapidity, rapidly becoming granular, and appear to be the source of the small granule masses which have been described by many observers. The corpuscles can be preserved unaltered in form for more prolonged examination by certain reagents, as, for instance, by a solution of chloride of sodium tinted with methyl-violet. They are to be found also in human blood, but they undergo alterations with extreme rapidity, and the best method of observing them has been found to be by placing a drop of the above solution over the puncture, and squeezing the blood out, and immediately examining it under the microscope.

Bizzozero has been unable as yet to ascertain anything regarding the origin of these elements. It is exceedingly improbable that they are in any way derived from the ordinary colorless corpuscles, because they possess a very definite and characteristic form, and the leucocytes contain no element from which these objects could be derived. A comparison between the blood in the vessels and out of the body thus clears up the origin of the granule heaps, which some regard as products of the destruction of leucocytes, and others, as Hayem, ascribe to changes in peculiar flat corpuscles. The latter view is undoubtedly correct, although Hayem does not seem to have observed these elements in the circulating blood, since he describes them as biconcave discs which are transformed into red corpuscles, and calls them "hæmátoblasts." The objects regarded by Bizzozero as the source of the granules possess no stroma, and never contain hæmoglobin; they differ therefore from the hæmatoblasts of Hayem.

The new elements seem to play an important part in the functional alterations of the blood. They are increased in certain morbid conditions—as, for instance, after bleeding—and play an important part in the production of thrombi. They constitute the chief part of the white clots in the mammalian, since they give rise to the granular material which is seen between the pale corpuscles, and which has hitherto been ascribed to the degeneration of fibrin. In the process of coagulation these elements appear to exert the influence which has been attributed by Mantegazza and Schmidt to the colorless corpuscles. Schultz, Ranvier, Hayem, and others, have noted that the reticular threads of fibrin often present at their junction these groups of granules, and hence inferred that the latter were produced by the degeneration of fibrin. Hayem, however, found that certain fluids which hinder coagulation preserve unchanged the form of his "hæmatoblasts." It will also be remembered that A. Schmidt asserted that the coagulation of the blood is effected by the white corpuscles, which by their destruction yield the granules, and so constitute a considerable part of the substance of the clot. Bizzozero, however, now urges that the formation of a clot is due, not to the white corpuscles, but to these new elements. He has never been able to satisfy himself of the wholesale destruction of white corpuscles assumed by Schmidt. Leucocytes are comparatively few in the circulating blood, and he would never observe any destruction of them after the blood was drawn, provided it was mixed with an indifferent fluid, such as a saline solution. The time at which coagulation occurs in a given drop of blood corresponds closely to that at which these new elements present the degenerated changes. The fluids which retard or prevent coagulation—solutions of carbonate of soda, or of sulphate of maganesia, for instance—also hinder the granular transformation of the new corpuscles. The indifferent solution of the chloride of sodium does not preserve them, but one to which methyl-violet has been added does so. With the former the blood coagulates in a quarter of an hour, with the latter it remains liquid for twenty-four hours. If a vessel of a living animal is included between two ligatures, the blood within it remains liquid for hours, and during the whole time these elements preserve their characteristic form, although in blood outside the vessels they undergo degeneration in a few minutes. If the blood is "whipped" and the fibres employed are withdrawn before coagulation commences, and are then immersed in a liquid capable of preserving the new elements unaltered, it will be found that they are covered with a thick layer of the new elements, among which are very few white corpuscles. If the whipping has been continued longer, these elements are found to have undergone degeneration and to remain on the layer of fibrin. From these facts it follows that whereas the ordinary white blood-corpuscles present no noteworthy changes at the commencement of coagulation, these new elements are considerably altered, and where they adhere, there the fibrin is deposited, and, finally, that all agents which hinder their transformation retard also the coagulation of the blood. The evidence is thus very strong that this coagulation—that is, the formation of fibrin—takes place under the direct influence of these corpuscles.—*British Medical Journal.*

GOVERNMENT CENSORSHIP.—The Chinese authorities of Shanghai recently issued a quaint decree respecting the neglect of physicians to attend at once on their patients, and the high fees which they charge. They give notice that it is the duty of all physicians to use their knowledge for the benefit of the people; when people are sick they must be ready to attend them whenever they are sent for, wtthout regarding the hour of the night or day, or the state of the weather. When people are ill they long for the presence of the doctor as the grain of seed longs for the rains. Instead of doing this, however, the physicians now think that they possess great skill, and not only charge high fees, but insist on being paid full hire for their chair coolies, and they do not care what becomes of their patient so that they get their fees. If these were only charged to the wealthy, it would not so much matter; but the poor have to pay them also. An evil practice (the decree goes on) also exists, by which doctors will not visit their patients before one o'clock in the afternoon; some will even smoke opium and drink tea until late in the evening. These are abuses, the magistrates say, which they will on no account permit. Doctors must attend their patients at all times; they must, if necessary, visit them several times daily; they must think more of them and less of their fees. Notice, therefore, is given to all officials and people, that a physician who does not attend when he is called must only receive half his fee and half his chair-hire. "If you physicians delay your visits you show your wickedness and sin against yourselves." The decree is a model one for a paternal government; argument, entreaty, objurgation, exposition, threats, are all mingled in due proportions.—*Stoddart's Review.*

THE ELECTROTONOUS OF THE NERVES IN LIVING MAN.—It has long been desired alike, by physiologists and by electro-therapeutists, to obtain clear evidence in the human nerve of the alterations of excitability by galvanic currents which Pflüger observed in the frog's nerve. Those observers who thought they were demonstrable rested upon experiments fragmentary and conflicting; others, such as Runge, went so far as to deny altogether the existence of such alterations, or at least the possibility of proving them. Indeed, the conditions of experimentation on the human body are so complex, and the sources of fallacy so numerous, that it appeared almost impossible to simplify the one and to eliminate the other sufficiently to obtain clear and uniform results. Mr. de Watteville and Dr. Waller, in a communication read at the last meeting of the Royal Society, appear to have obtained by new methods, results of importance and interest. They state that the results of numerous experiments, in all of which they applied Marey's graphical method for recording the muscular contractions obtained, allow them to formulate laws for the human nerve strictly concordant with, though not absolutely similar to, those laid down by Pflüger for the exsected frog's nerve. Thus the cothodic and anodic regions of the nerve respectively present the usual increased and diminished irritability during the polarization. Some interesting experiments, however, seem to prove that in man it is the katelectrotonic which invades the anelectrotonic zone with increasing polarization. With reference to the after effects, it is to be noted that the temporary negative modification after katelectrotonus is of very considerable duration in man. The subsequent positive modification (as well as that following anelectrotonus) has also been traced for very considerable periods. The memoir, as communicated to the Royal Society, has of course a purely physiological character. But, inasmuch as it deals with phenomena observed on living man, we may claim it as having direct clinical importance, furnishing as it will certainly do, a scientific basis to electrodiagnosis and therapeutics. It is high time that in England these branches of the medical art should break away from the unpleasant associations under which they still labor in the minds of the majority among medical men.—*London Lancet.*

Bibliography.

LECTURES ON VENERAL DISEASES.[1]

In the preface the author seemingly offered an apology for his book. It was, he says, written to gratify the students who had heard his course of lectures and petitioned him to publish them. Some apology is absolutely needed for such a book. There is nothing new or original in it. The matter given is badly arranged. Some of of the prescriptions given are truly "shot-gun" prescriptions. One of them contains eleven different ingredients.

The quotations from different authors are numerous, and, in fact, the only readable parts of the book. The spelling in numerous instances is horrible. The grammer and diction are bad. The author had taken the opportunity in several instances to advertise patent medicines, and seems to think that it is a proper place to do so. The only redeeming feature about the book is the type, which is large, and consequently abbreviates slightly the contents.

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[1] By W. F. Glenn, M.D., Professor of Anatomy and Venereal Diseases in the Medical Department of the University of Tennessee; formerly Professor of Physiology in Nashville Medical College, etc., etc. Wheeler and Alborn, Printers, 90 N. Cherry St., Nashville, Tenn., 1881.

Original Communications.

CHOLERA INFANTUM AS A MYCOSIS.

By F. FORCHHEIMER, M.D.,
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In this, the age of bacteria and cocci, it would seem strange if that disease which is the one producing the greater number of deaths among infants should have eluded research in the direction indicated by the heading. Upon looking through the modern literature upon this subject we are therefore not surprised to find several excellent articles that treat of this subject from this aspect. First, perhaps, in priority comes an article by Baginsky (*Ueber den Durchfall und Brechdurchfall der Kinder, Jahrbuch f. Kndrhlde,* p. 311, 1875), in which he discusses the causes of this most fatal malady. He discusses the causes in relation to the condition of the ground water, the temperature of the air, the temperature of the ground, nutrition, and, finally, the dwellings of the patients. The ground water and the temperature of the ground, according to his tables, seem to have no influence upon the frequency of cases. The temperature of the air and the nature of the dwellings, however, are proven to be directly in connection with increase in the number of cases. "The mortality from diarrhœa and diarrhœa and vomiting is dependent upon the height of the temperature of the atmosphere, but its effects are produced only after a certain time (about eight days)." By statistics he then goes on to show that cellars cause enormous mortality among their inhabitants; that is, with diarrhœal diseases. He states that in Berlin those dwelling in cellars are, comparatively, healthier than those living on the fourth floor of the same building, therefore the quality of the food cannot be the factor producing the before mentioned mortality. But the influence of the temperature, the moisture and want of change of the air in these localities render it highly probable that the food is changed, becomes putrid or is the carrier of a something that may produce pathological changes in the intestine of the infant. Now, if we examine the dejections of children suffering with vomiting and diarrhœa, especially such cases as will be described more accurately further on, we find in them masses of vibriones, bacteria and other minute organisms, all bearing evidences of putridity going on within the intestine. Baginsky claims nothing of specificity for these various kinds of bacteria and Demme (*Jhrsbricht. d. Kinderspitales,* Bern, 1881), admits that these bacteria are found in the stools of healthy children, indeed that they are present in every instance as can be verified by anyone taking the trouble to examine an infantile stool with the microscope. While Baginsky, therefore, does not look upon this peculiar form of infantile cholera as being produced by the bacteria, but simply the result of an abnormal putridity of the contents of the intestine Demme goes further and states that we are dealing with an acute infectious disease, "an acute mycosis of the intestine." Demme agrees with Baginsky and Biedert (*Kinder Ernährung,* 1880), in regard to the ordinary forms, such as we see them in the great majority of cases, claiming only an increase in these low organisms, but reserves for the cases immediately to be described a parasitic etiology. Meissner, on the other hand, considers all cases of cholera infantum as mycoses. Suspicious cases are given both by Baginsky and Demme, but I prefer to give one from my one experience as we will have some deductions to be drawn from it; this case, however, is identical with those described by these authors.

I was called early in the morning of July 16th, 1881, to see a child four months of age. Upon arriving I elicited the following history: the child had been perfectly well up to eleven o'clock on the morning of the previous day. It was being brought up on the breast and, with the exception of colic attacks, had never been troubled with its bowels. The family history was good, neither syphilis nor tuberculosis being detected. The infant began to vomit and then had severe fetid, greenish gray, large passages. It had refused to nurse for one hour previous to my being sent for, and this, in addition to the appearance of the child, frightened the parents. Upon examination of the patient I found the well marked symptoms of collapse present; the fontanelle was sunken, the eyes were deep in the sockets, the child was breathing very rapidly, its breath, however, being hot instead of cool, as we are wont to find it in this condition. The child was inclined to sleep restlessly, and had a certain amount of twitching of the muscles that boded no good. The temperature in the rectum was 105° F. and the infant was still vomiting and having diarrhœa. My therapy then had to be directed not only to the local condition of the bowels, but also to that, perhaps its result, of fever. I ordered lukewarm baths, better baths of ordinary hydrant water, for the temperature of hydrant water on that day must have been 80° F., to be repeated every hour and gave small doses of opium and cognac. The breast milk was to be given, in small quantities, frequently repeated, in a spoon. At the same time strict orders were given that the child must be kept outside of the house, both day and night, the baths being given to the child in the open air (it must be remembered that upon this day the temperature did not fall below 95° F. in the shade). When calling, several hours later, I found the child's condition somewhat improved, the temperature 104° F. and the vomiting checked. The treatment remained the same and upon my evening visit I found the child less inclined to sleep, the tendency to convulsions ceasing entirely, the diarrhœa still continuing and the temperature again 105° F. I now added the tannate of quinia to my former prescriptions and this, fortunately, was well borne by the little patient. I now also made a microscopic examination of the stool and found it to contain bacteria, micrococci and epithelial cells. The reaction of the passage was intensely acid its odor decidedly feculent. The treatment continued throughout the night and upon my morning visit I found the temperature 103° F., the little patient seeming to react a little better than upon my previous visit, but yet the symptoms appearing little changed. The diarrhœa had become less frequent and the child was resting better. Upon seeing the child in the evening the temperature had not risen and the bowels were becoming more natural, both as to color and reaction. The intense feculent odor was also disappearing and the child was pronounced better. The baths were now discontinued but cognac, opium and tannate of quinia were given at regular intervals. From this time the child made a good recovery, behaving as any other patient with cholera infantum would and when perfectly restored was sent to the seashore.

The peculiarities of these cases then are, the appearance of a violent attack of cholera infantum without any apparent cause; this attack being associated with high degrees of temperature; the brevity associated with the intensity, and finally, the enormous mortality. In regard to the first point, the etiology, we have the views of Baginsky and Demme. To my mind neither have been entirely satisfactory. It must be confessed that Baginsky certainly strikes a key-note when he states that putridity can be called the cause of cholera infantum and this must be the case, especially in those attacks occurring in the midst of winter. If we look at the proofs offered by Demme for his mycotic view, we must certainly admit that they are as yet very weak. They consist simply in that low organisms are found in the stools and have been found in the lacteals and mesenteric fluids. Demme desires that this form be known as a special form of cholera infantum. At the present, however, much more is demanded for the establishment of a mycotic etiology than simply the detection of bacteria. We need culture experiments and inoculation to insure us that the low organism is the cause of any pathological change. Such have not been presented and until this occurs the mycotic theory must still be looked upon as a hypothesis. If putridity will be taken as the universal cause of cholora infantum then, this being a mycosis, all cases must primarily be attributed to a low organism. In the adult the putrid processes as they go on during normal digestion are pretty well established, but for the child the intestinal digestion and the pancreatic fermentations are, more or less, still a chemical blank. So that we must await further physiological and chemical research before we can say absolutely that putridity is the sole cause of catarrhal affections of the intestine; it seems likely, in the present condition of our knowledge, that certain kinds of putrescence, not well defined, are found in every case of cholera infantum, but nothing more. In regard to the case narrated above and a great many others that I had occasion to observe during our last tropical summer, I would call attention to the similarity that exists between it and certain cases of insolation as observed in the adult. Indeed I have looked upon all these cases as cases of thermal fever and the diarrhœa and vomiting simply as symptoms of this trouble. Both of these being due to the digestive disturbances caused by increased temperature or blood change as observed in insolation. I have come to this conclusion because of the incomparably greater frequency during last summer; of my observation of these attacks when children have been exposed to the direct effects of the sun in former summers and of the increase in number of these attacks, not as Baginsky observes some time after an increase in atmospheric temperature but in direct relation with it. Thus an infant is exposed to the effects of heat, greater in the sun than in the shade, and symptoms of a choleraic attack will supervene, in some cases, within twenty-four hours. Up to last summer my attention has been called only to such cases as had been exposed to the direct action of the sun's rays, but during last summer cases would develope in the room or even where children were left, as some of my patients were, altogether in the open air. The peculiarity of high temperatures was observed in every one of these cases, the onset being marked by a maximum and the continuance or intermission of the temperature giving character to the attack. In fatal cases a remission hardly took place, the fever being continuous, excepting the diurnal remission, and the second maximum usually being a sign of approaching dissolution. When we come to consider the fact that all the signs of a collapse are present, extremities and face being cold, we may justly claim for these cases a peculiarity, if not in etiology certainly in symtomatology—for in the collapse of ordinary cholera infantum the temperature in the rectum is usually subnormal. Again, the mortality proved much higher than in ordinary cholera infantum, and furthermore, in a very short space of time. It is true that cases are observed in which an infant will die after, or even before, having had a watery passage, but these cases, admittedly, are exceptions. As a rule an infant with cholera passes through the condition of hydrocephaloid, death supervening after one to two weeks. In the cases before us death usually followed in two to four days and so-called meningeal symptoms developed from the first. Indeed in the very severe cases a differential diagnosis between acute meningitis and cholera infantum became exceedingly difficult. In regard to the cases occurring in the middle of winter, as they will occur in the experience of all seeing a great many sick children, usually a palpable error in diet will be found as sufficient cause. This not being the case, the explanation must be held sub judice until further investigations are made in the direction of mycotic and physiological processes in the small intestine of the infant.

THE OBLIGATORY ATTENDANCE OF A DOCTOR. —Dr. Guttmann, who is practicing in St. Petersburg, has been fined ten roubles and condemned to a month's "arrest" for having refused to visit a patient who urgently demanded his services, and who died while a doctor was being sought for. The chief point urged in his defense by Dr. Guttmann was that the person for whom his services were requested had fallen ill in consequence of having partaken of some injurious food, while his practice was confined to the treatment of the venereal disease.—*Med. Times and Gazette*,

OCULAR DISTURBANCES IN SPINAL LESIONS.

By W. W. Seely, M.A., M.D.,
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(The following abstracts were prepared in connection with the case of acute myelitis, reported by Dr. Fackler to the Cincinnati Academy of Medicine).

In regard to the subject of eye symptoms associated with diseases (and injuries) of the spine, we may say it has been enveloped in a more or less dense cloud of uncertainty, for while there could be no doubt of the association, there was much about the sort of association, whether coincidental or the relation of cause and effect.

This doubt has been chiefly in respect to the dependence of the eye trouble upon the spinal.

The accumulation of observed cases would seem at present to leave little room for doubting the direct dependence of certain ocular lesions upon lesions of the spine.

The question of the relation between disease of the spinal cord and the optic nerve cannot at present be satisfactorily answered. Such is the statement by Leber in the section on spinal amaurosis in Græfe u. Sæmisch Handbuch der Gesammten Augenheilk'd, vol. v. pg. 870, 1877.

So that the great question now is, how can this dependence be explained?

To thoroughly comprehend the difficulties in the matter, we will say that the first point to be established was, do ocular symptoms arise in pure spinal lesions; the second, if so, how.

The case is clear enough so long as there is the assumption of a like process in the brain. It is still almost entirely clinical facts that establish the dependence of ocular upon spinal lesions. And it is reasoning based on these and the weaving in of other known anatomical, physiological, as well as experimental and pathological data, that has produced somewhat of a connected whole, so we are justified in saying spinal lesions, pure and simple, may produce ocular trouble, and that the path between the two is to be found in the vaso-motor system.

Bull says: "In most of the diseases of the spinal cord, where there are any symptoms of ocular trouble, these symptoms are of three kinds, viz.:

1st. Those pointing to the pupil, either mydriasis or myosis; 2nd, those pointing to the eyeball, causing diplopia and strabismus; and 3rd, those pointing to the optic nerve and retina, giving us amblyopia and amaurosis. Irregularity of the pupil, diplopia and mystagmus, though, perhaps, as constant symptoms accompanying spinal lesions as the amblyopia is, are yet of less consequence both to physician and patient."

Amblyopia occurs most frequently in the old "tabes dorsalis," and is often the first symptom of the disease, but it may be entirely absent throughout the whole course of the affection.

In speaking of sclerosis, Dr. Fox distinguishes two varieties, the spinal and cerebro-spinal; but the same ocular symptoms occur in both forms and with about the same intensity. Charcot says that the diplopia in spinal sclerosis is a phenomenon of the beginning of the disease, and is generally transitory; but the amblyopia is a lasting, and very frequent symptom in cerebro-spinal sclerosis "en plaques," which, however, rarely leads to amaurosis. Traumatic lesions of the spinal cord, particularly in the cervical and dorsal regions, frequently give rise to abnormal oculo-pupillary troubles. We sometimes meet with contraction of one or both pupils, and sometimes with dilatation; and we may even see the two different states succeed each other in the same eye; and here Charcot tells us that spasmodic dilatation always precedes the paralytic contraction.

Another fact, which occurs comparatively seldom, and is hence less known, is that the mydriasis resulting from a permanent irritation of the cilio-spinal region of traumatic origin, may last continuously for several weeks. These modifications in the size and shape of the pupil may be directly due to compression of the superior region of the spinal cord, for many observers have seen them in cases of Pott's disease of the cervical vertebræ.

The lesions of the optic nerve and retina, and the diplopia and mydriasis, or myosis, are due essentially to lesions of the cord propagated to the optic and motor oculi nerves, and sometimes the fifth pair of cranial nerves becomes implicated.

It is unimportant to the production of the oculo-pupillary symptoms, whether the anterior or the posterior columns of the cord be diseased; it is only needful that what is called the cilio-spinal portion should be affected, that is between the last cervical and tenth or eleventh dorsal vertebræ inclusive.

Another point to be remembered is that any attempt to trace a continuity of morbid tissue, or direct connection, between the disease in the cord and that in the optic nerves has utterly failed in the majority of cases when autopsies have been made.

The affections of the optic nerve, and also those of other tissues of the eye occurring in course of chronic disease of the spinal cord, are in many instances due to disordered nutrition, rather than to any actual disease of the parts.

But this matter of deranged nutrition is a very unsettled one as yet, particularly with reference to the part which the systematic nerve plays in the matter.

Judging from my own experience the most common ophthalmoscopic sign accompanying spinal disease, is an alteration in the grosser circulation of the optic nerve and retina, which is afterward followed by a still further change in the minute vessels of the disk, leading in rare instances, as in ataxy, finally to obliteration of their calibre and atrophy of the part.

The intra-ocular or rather the intra-cranial symptoms of ataxy may precede it by months and years. In these cases the same sclerotic process probably exists in the brain. The visual troubles proper, without regard to the diplopia, are of two kinds: 1st, paralysis of accommodation; 2d, amblyopia or amaurosis dependent on distinct lesion of the optic nerve.

The papillæ may present to the ophthalmoscope two conditions: the one, always first in point of time, is a condition of hyperæmia, more or less marked, of neuro-paralytic origin, and generally soon passing into the second, which is a condition of anæmia, becoming more and more marked, until the vessels disappear and atrophy is the result.

According to Bull, in ataxy there is no lesion of continuity between the spinal cord and optic nerve. In pure spinal sclerosis, according to Bourneville and Guéran, the optic nerve is rarely and then but slightly affected, but in the cerebro-spinal form amaurosis always occurs.

While in certain cases of cerebral disease the atrophy of the optic nerve follows by a simple extension of the morbid process from the centre along the nerve trunk to its peripheric termination, this cannot be the case in spinal affections, since there is always a tract of normal healthy tissue between the parts. It is much more rational to believe that parts so distant from each other may undergo the same changes simultaneously and independently of each other, and this is in fact the case."

Bull, in his article from which I have been quoting (see *American Journal of Medical Sciences*, July, 1875), regards the question of the association between ataxy and optic nerve troubles as unsatisfactory and incomplete.

Leber says affections of the optic nerve in diseases of the spine are propably due to a lesion of the great sympathetie through its communication with the anterior roots of the spinal nerves. Westphal has shown that in progressive paralysis the appearance of spinal affections is quite common; sometimes true tabes, sometimes chronic myelitis, hence amaurosis in this disease arranges itself quite closely along with spinal amaurosis.

According to Græfe about thirty per cent. of all the ominously progressive cases of optic nerve atrophy belong to spinal amaurosis. While the optic nerve lesion of progressive paralysis very often precedes it, the reverse, according to v.Græfe, takes place here, since the spinal lesion either precedes or at the time when the atrophy of the optic nerve begins there are already distinct spinal phenomena present, such as myosis, paralysis of the bladder, diminution in the sexual power, etc. Only rarely do we find blindness existing for a long period before the spinal symptoms.

The most frequent disease of the spinal cord producing atrophy of the optic nerve is tabes dorsalis, gray degeneration of the posterior columns; still it is found along with other chronic lesions of the cord, especially with myelitis of the lateral columns.

Little is known in regard to nerve affections in acute lesions of the spinal cord. The question of the relation between disease of the spinal cord and optic nerve has as yet no satisfactory solution. Of course there can be no direct influence of the cord upon vision, and the intermediation of vasomotor disturbances has been called in to help out in the difficulty.

Wharton Jones, from cases of amaurosis coming on long after concussions of the spine, expressed the view that there was an affection of the sympathetic.

Leber regards the often appearing myosis in the beginning of such cases as lending support to this view, since the dilator pupillar muscle is supplied by fibres from the great sympathetic and the paralysis of the latter would cause myosis, especially when assisted by the hyperæmia due to paralysis of the vaso-motor nerves.

V. Græfe, in view of the fact that there was absence of a preceding hyperæmic and inflammatory state of the optic papilla, and of the fact that it was impossible to trace the disease of the cord that ordinarily ceases at the medulla oblongata into the brain, that we had rather to do with a simultaneous or successive appearance of the same process in different parts of the nervous system dependent upon a common cause.

Wells says the affection of the optic nerve in diseases of the spine is probably due to a lesion of the great sympathetic through its communication with the anterior roots of the spinal nerves.

Drs. Rieger and Forster remark in paralytics precisely and exclusively those among them that present ocular symptoms in whom the absence or greatly increased patellar reflex, as well as other unequivocal spinal symptoms, proved an associated affection of the spinal cord, must, on their part, compel the conclusion that in the eye affections in question, not the brain but the spinal cord plays the important role, for on the other hand the post-mortem examination of patients in whom there was lepto-meningitis and atrophy of the entire convexity of the brain with intact spinal cord were free from ocular disturbances (barring pupillary differences). The question seems to be is the ocular trouble dependent upon the spinal on account of some vaso-motor or trophic influence starting from a remotely diseased portion of the cord, or have we to do with a simultaneous, in no way connected diseased process at different points of the nervous system? Or is there an extension by the meninges through the mediation of the optic roots, claimed by Stilling to have been traced into the medulla oblongata.

There seems to be only two assumptions, either a simultaneous and independent attack or a direct dependence upon the spinal cord, the remote influence, however, taking place through an apparatus as is known to us in the vaso-motor system. This view of the direct dependence, *i.e.*, by means of the vaso-motor system seems to find the most support in the literature.

Among thirty cases of pronounced spinal injuries Allbutt found disturbances of the eye, only however in those running a chronic course.

Mooren observed a case in which a blow with the open hand in the lumbar region was followed by insensibility, lasting half an hour, then heaviness of the eyes, and later progressive optic atrophy, ending in blindness and other spinal symptoms. The cases of optic neuritis in acute myelitis arrange themselves directly along with these traumatic cases. Such cases have been published by Erb and Steffan, Seguin, Noyes and Rumpf.

Leber presumptively speaks of a direct influence coming from the spinal cord over the nutrition of the optic nerve.

CONDITIONS OF THE PUPILS IN SPINAL AFFECTIONS.—Erb thinks that the plan of disturbance is to be sought for in a reflex arc between the optic and oculo-motor.

Rieger does not seem to think that it is necessary to look for a diseased spot in the brain (in the tubercula quadragemina), but the pupillary disturbances can be explained in the same way as those in the optic nerve. He can accept Erb's view only by making the disturbing element in the tubercula, secondary to a disturbance far remote in the spinal cord.

OCULAR MUSCLES.—Rieger regards affections of the ocular muscles, namely, the extrinsic muscles, as the most obscure page in this oculo-spinal book. Paralysis of the ocular muscles occur early in the course of spinal affections, the fourth pair very seldom or never, the sixth and third with equal frequency, partial less frequent than total paralysis. Further, there is still to be mentioned a decided ptosis appearing in diseases of the cord, from paralysis of the smooth muscular fibres, (Müller's muscle) with or without a simultaneous myosis. These paralyses are often transitory, disappearing spontaneously and completely; sometimes resisting all treatment. The combinations are many sided, at one time a branch of the third upon one side with the fourth on the other, never, however, attacking a coordinate system.

In general, there is a striking similarity in the behavior of the muscle disturbances in syphilis and spinal lesions, only in syphilis complete paralysis of third, is, perhaps, somewhat more frequent.—*Græfe's Arch. Band xxvii. Abth. iii, pg.* 81.

Dr. Tangeman found in this case what is a very nice point in the ophthalmoscopic differential diagnosis between the picture of a meningeal disease as portrayed on the papilla, and that of a pure spinal disease.

There can be no question about the extreme difficulty of differentiating by the opthalmoscope a neuritis of cerebral origin from one of spinal.

In the cerebral, as a rule, the entire picture is exaggerated as compared with the spinal.

I might express the difference, as it were, diagrammatically, if, in the two pictures, the one to represent that of an altered papilla, due to spinal trouble, should be a copy of the cerebral one with the symptoms of swelling left out or kept in the background.

We would have the changes sharply restricted to the papilla, not trespassing over the borders.

I have seen now the veins the fuller, now the arteries in the spinal form, but the point spoken of by Dr. T. was the difference in the size of the vessels over different regions of the papilla, by which the less vascular parts look as if changing into atrophy.

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Remarks on the discussion.—Rieger says there is found in spinal optic nerve affections a characteristic contrast between contraction of the peripheric field of vision on the one hand, and on the other of marked or insignificant diminution or even preservation of central vision, while in meningeal atrophy the entire visual field is disturbed in a coarser manner and appears without such characteristic defects, which when present are of great differential diagnostic value.

Reply to Dr. Whittaker: Rieger says that disturbances of color perception occur in spinal processes with disproportional frequency, and that when present red-green blindness is by far the most frequent.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of April 24th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. H. WENNING, M.D., *Secretary.*

DR. G. A. FACKLER reported the following case of

Myelitis with Complete Amaurosis.

March 28th, he was called to see a young man, twenty years of age, who, previous to his illness, was strong, healthy and rather fleshy. He had been complaining for several days of general malaise. When he saw the patient the latter was suffering with severe headache and backache. During the afternoon he had a severe chill; temperature 102°. Salicylic acid was ordered in fifteen grain doses every three hours. The next day he was found in the same condition, but on awakening the morning of March 30th he was unable to move his lower extremities. On examination he was found to have a total paralysis of the legs. The urine had not been passed for twelve hours; it was drawn off by means of the catheter, and since that time the bladder has been emptied in this manner twice daily; feces passed involuntarily; no pain was present. He complained of dimness of vision in the right eye. Temperature 100°. Quinine ordered. In the evening he was totally blind, so that he could not distinguish light from darkness. There seemed to be an anæsthetic condition of the surface of the lower extremities. Tongue coated; severe thirst, which has continued until present time; abdomen slightly tympanitic. March 31st, condition unchanged with the exception of the tongue, which was deflected to the left. Quinia continued; chloral ordered to overcome sleeplessness. No change was observed until April 4th. During this time the range of temperature varied from 98½° to 101½°. April 4th, sensation was improved; iodide of potassium ordered, thirty grains every four hours; also compound cathartic pills to relieve the existing constipation. April 5th, cystitis set in, caused by decomposition of urine. Washed out the bladder with a solution of boracic acid. April 6th, he was attacked with a light form of parotoditis, which passed away in a few days. April 7th, he complained of pain in the lumbar region. In the evening hypodermic injections of morphia were given. April 9th, tongue straight, hyperæsthesia of surface of body, except abdomen and face. April 15th, shooting pains in lower extremities.

Dr. Schmuck acted throughout the case as consulting physicians. April 21st, at request of patient's brother, Dr. Whittaker was called in consultation.

The patient at present is greatly emaciated and debilitated. Has a bedsore on right buttock; throughout his illness he has never lost control of his mental faculties; hearing very acute, and appetite good. He uses his upper extremities pretty freely and is able to turn his head and shoulders from side to side and to raise his head from the pillow. No alteration could be perceived in fundus of the eye, except a slight contraction of the arteries and enlargement of veins. There is some difficulty in moving the eyes from side to side. The pupils are sometimes dilated, sometimes contracted, but do not respond to the light. No specific history. The speaker reported this case to gain some information as to the cause, the connection between the spinal and ocular trouble, its prognosis and treatment.

DISCUSSION.

Dr. Whittaker said that he had been called to see the case and found it of special interest, in a diagnostic point of view, on account of the complication on the part of the eye. A differentiation had to be made between acute myelitis and spinal hemorrhage. The complications of amaurosis and hyperæsthesia spoke for myelitis or meningo-myelitis; the suddenness of the paralysis for hemorrhage. The patient was paraphlegic with a stiffness of the muscles of the upper extremities. Amaurosis was profound and the pupils were widely dilated. When testing the sensibility of the skin hyperæsthesia was found most marked. The physicians in attendance could not reconcile the amaurosis with the theory of myelitis, to which the speaker inclined, but he felt that it was a case of spinal amaurosis with myelitis. The fact that the meninges were afterwards affected showed that the disease was progressing. In myelitis we have rather anæsthesia, in meningitis hyperæsthesia. The stiffness of the muscles of the upper extremities was a proof that the myelitis was ascending. Since last week there were no additional unfavorable manifestations. The speaker had once seen a similar case with another physician, where the patient was profoundly paralyzed with the exception of the muscles of respiration, circulation and deglutition. An unfavorable prognosis had been made and yet the patient recovered.

Dr. Thrasher thought that one point in the history of this case ought to afford the differentiation between the two diseases. The pyrexia before the paralysis showed that there was a condition of inflammation of the cord before the paralysis set in, which would point to the diagnosis made. The deflection of the tongue showed that the disease had already ascended.

Dr. Whittaker replied that the first point made by the previous speaker was well taken, and was one more conclusive evidence of myelitis. The deflection of the tongue might be caused by the involvement of the hypoglossus nerve without the necessary implication of the brain. The experiments made by Ferrier and Hitzig on animals show that motor centres for the tongue do exist in the cortex cerebri and hence is the deviation of the tongue in brain lesions, but affection of the medulla at the origin of the hypoglossus would also exhibit paralysis of the tongue independently of lesion of the cord.

Dr. Seely remarked that the case was of such exceeding interest, on account of the ocular symptoms, that he would read an essay on diseases of the nervous system as affecting the eye at the next meeting. He would therefore reserve all remarks that he had to make on Dr. Fackler's case till that time.

Meeting of May 1st, 1882.

Ocular Symptoms in Nervous Diseases.

Dr. Seely read an interesting essay on the diseases of the nervous system as affecting the eye. The essay was called forth by the report of Dr. Fackler's case of acute myelitis, when information was asked in regard to the connection between spinal and ocular troubles (see p. 429.)

DISCUSSION.

Dr. Whittaker remarked that the appearance of eye complications in spinal disease was of great interest because it proved that there may be a disturbance of the sense of vision, of centric origin, outside of lesions of the brain. The only possible explanation to be given for ocular symptoms is through vaso-motor influence. We see this disturbance often in entirely different characters, as, for instance, hyperæmia of one side of the face, unilateral sweating or dilatation of the pupil after galvanizing the medulla oblongata. All these phenomena are produced through the vaso-motor system. The spinal diseases in which eye complications are most frequent are tabes dorsalis and, perhaps, progressive paralysis of the insane. In progressive locomotor ataxia they are more frequently seen than in the pure neuroses.

The importance of an examination of the eye in spinal disease is undeniable, as the ophthalmoscopist may at times be able to locate the disease before the general practitioner. The case reported by Dr. Fackler, which called forth the present essay, demonstrated the value of an intraocular examination. This individual was paraplegic from the meningo-myelitis, besides having a complete amaurosis, which was most embarassing, and if the eye complication had not been known it would have been most difficult to locate. The speaker must remark, however, that the association of the eye symptoms, although frequent in locomotor ataxia, is in myelitis very rare. The case just referred to was the first one of eye disturbance that he had seen. Interesting, but hard to account for, was also the association with these lesions of optic neuritis.

Before closing the speaker would mention another fact, to which the essayist had not referred as he probably did not deem it of sufficient importance, namely, a disturbance of the color sense. This disturbance often shows itself in locomotor ataxia, and can only be accounted for on the vaso-motor theory already invoked.

Dr. Fackler, when asked what was the condition of his patient at present, said that the symptoms were not much changed since the last report, except that he was weaker. Since three or four days he could not distinguish an object when moved before his eyes, he had simply the sense of light. The paraplegia was the same. No fever. The bed-sores extended to the left side. Besides sustaining the patient he was not instituting any special treatment. Iodide of potassium had been given freely in enormous doses.[1]

Dr. Seely observed that Noyes gave the iodide of potassium in his case of acute myelitis, though there was no history of syphilis. He did not know what influence it had in the recovery. According to the speaker's opinion as stated in his paper, there is probably a history of syphilis in many of these cases. Noyes claimed that the lesion in his case must be located inside the cranial cavity and not the spinal cord. Rieger's article was not written at this time adding additional confirmation to the view of vaso-motor intermediation. Rieger had obtained his statistics from vast material in the insane and other asylums in Munich.

Dr. Whittaker called attention to the following points of interest in Dr. Fackler's case. The first was that the brother of the patient was subject to loco-motor ataxia, showing that these persons are of a neurotic stock. The other point was a question of treatment. If the eye complication is due to vaso-motor influence, is it not possible to control it by bromide of potassium? The iodide had been tried in vain, but the bromide might be given. If it did not control the disease, it might have some influence on the eye. He would give it in large doses, about forty grains of the bromide three times a day.

Dr. Ravogli said he had nothing to add to the subject under discussion, but would call attention to certain symptoms seen in loco-motor ataxia. The patient begins to stammer when the inflammation reaches the olivary bodies and then proceeds slowly from the bulbus to the interior parts. The tubercula quadrigemina are the seat for ocular trouble. Experiments on animals have shown that when these structures are injured they become perfectly blind.

Dr. Ransohoff inquired if it be possible for increase of pressure in the cord from hemorrhage, or the fibrinous deposit of inflammation to cause the changes in the eye as result from intercranial pressure forming what is known as the *stauungs papille*.

Dr. Seely replied that the so-called choked disc is not seen in spinal disease. In Fackler's case there was but a slight enlargement of the veins of one portion of papilla.

In spina bifida it is entirely different, as here the eye symptoms are probably largely dependent on the associated hydrocephalus internus. In diseases of the spine the affection is a slow inflammation, either of the nerve substances or the neuroglia, especially in tabes dorsalis. The exact point of origin is not yet made out.

Dr. Ravogli observed that in Italy there are some cases of malarial fever where persons have an amaurosis associated with the pernicious fever. These cases remain usually blind for life; in some instances sight will return after a long time, but only sufficient to distinguish light from darkness. The pulse is depressed, the temperature low and breathing is very slow, showing that the bulbus must be concerned. The disease is there termed *febris perniciosa amaurotica*. The malarial poison must be the cause of the disease.

Koch's Discovery of the Bacillus Tuberculosis.

Dr. Whittaker called the attention of the Academy to the recent discovery made in medicine—a triumph of science that will probably ultimately give us the means to eradicate one of the deadliest scourges of our race. He referred to the brilliant results obtained by Koch, in Berlin, in defining the bacillus tuberculosis. The specificity of tuberculosis has been pretty generally accepted for some time, and many observers labored in the field of defining it as a contagium vivum, but it was reserved for Koch to discover the bacillus. This most careful observer and skilled microscopist proved by staining experiments peculiarly his own that the bacilli are rod-shaped bodies, which are motionless, similar to those observed in lepra, and grow in a culture fluid of blood-serum and gelatine. He succeeded in inoculating even dogs and rats, hitherto considered uninnoculable, with miliary tuberculosis. So far the only link lacking is the inoculation of man himself, an experiment which would, of course, be unjustifiable. The discovery may give us the hope of successfully reaching the disease by prevention if not cure.

Dr. Conner remarked that he was not so sanguine as his friend, the previous speaker. He would only remind his hearers of the excitement caused by Lostörfer's discovery of corpuscles in syphilis a few years ago. The speaker doubted whether two years hence the bacillus tuberculosis will be looked upon as so great a discovery as at the present time.

Dr. Whittaker replied that Cohnheim found that he could produce tuberculosis by inoculation with one cheesy matter and not with another; and drew the legitimate conclusion that the former must contain the tuberculous germ and the other not. He only maintained that something was the contagium vivum, but was unable to define the germs. Koch, who is a very high authority, discovered a method of staining by methylene and vesuvin, which was, perhaps, the cause of the discovery of the bacillus.

The lowering of the drains referred to by the previous speaker might lower the mortality of the disease, or like any other improvement in hygiene, diminish the predisposition to it, but it could in no way affect the genesis of it, any more than in small-pox, typhoid fever, or syphilis.

Doliariana.—Doliariana is the name of a new alkaloid extracted from the variety of fig known as *Ficus dolaria*, which is regarded in Brazil as a remedy for a helminthoid parasite.

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[1] The patient has died since this report.—[Reporter.

Selections.

MEDICINE.

On the Prevention of Venereal Diseases by Legislation.—Albert L. Gihon, A.M., M.D., Medical Director U. S. Navy, read the following abstract of this paper before the Medico-Legal Society:

Mr. President and Gentlemen: I shall attempt very briefly to suggest a scheme which has occurred to myself and my co-workers in the American Public Health Association, as a feasible method for limiting the spread of venereal diseases.

An exceptional experience first attracted my own attention to the ravages that are occasioned by venereal diseases. About thirteen years ago I became resident in the Eastern Hemisphere in a foreign community of which the majority were men unmarried or parted from their wives, but maintaining sexual relations with the women of the country. One-third of the naval force on that station was poisoned by a disease which not only disabled them for duty, entailing expense upon the government for their maintenance, return home, and subsequent care in Naval Hospitals until their final discharge, but unfitted them as members of even the humble class of society to which they belonged, husbands with whom no wife could safely consort, fathers who could bequeath only misery to their children. I had already learned to recognize syphilis as the one great deteriorating influence operating in every quarter of the world, on the personnel of the service to which I am attached. One man in every ten in the navy of the United States since 1873 has been disabled by some form of venereal disease, and one-tenth of the whole appropriation for the care of the sick has been consumed in the treatment of this class of preventable maladies. Nor is the percentage less in our army and in the naval and military services of other nations.

During the year just ended at least every sixth or seventh man in the United States Navy, every tenth, and in the United States Army, among the negro troops, every seventh, and one in every four of the merchant sailors presenting themselves for treatment at United States Marine Hospitals and Dispensaries is affected with some form of venereal complaint.

The proportion of syphilitic to other venereal affections among the women of St. Petersburgh is much greater, according to Schperk, among those not subject to disciplinary control or supervision.

In civil life estimates based upon the returns of charitable institutions give the alarming number of five to one as the proportion of private to public cases.

Dr. J. W. White, of Philadelphia, estimates not less than fifty thousand people of all classes in that city are at one time affected by syphilis. The legitimate extension of these figures to the whole country develops an approximate aggregate of not less than two millions of the population at this moment suffering from complaints of venereal origin. The pseudo-moralist exclaims "Let them suffer the consequences of their sin, and if the sinner alone could be consumed in th fire he has kindled, there might be some prete for the merciless doom, but the fire scorches an withers the innocent with the guilty. Many ar innocent children and pure women, and it is fo these helpless beings I invoke your active inte ference.

Six years ago, when I first took part in the de liberations of the American Public Health Asso ciation, I at once remarked that while ever other enemy of the public health was arraigne and sentenced, not one voice was raised in de nunciation of this arch fiend; and when I sug gested that, of all sanitary bodies, this was th one whose duty it was to take action, I wa urged not to offend the susceptibilities of th religious world by obtruding so unsavory a topic.

That our profession have not been more active in averting the dangers of this disease is because of the onerous nature of the practitioner's duties. As he grows older, too, the experiences of his youth fade in his recollection, and the lessening ardor of his own passions causes him to ignore the fierce play of those about him. He forgets the covert indiscretions of the boy on whom puberty has burst like the sunrise. His children attain maturity, and are still children in his sight.

No argument is required to convince an audience of this character of the fearful sapping of the vital strength of the nation which must result from the wholesale infection of its youth. No shallow sophistry and parade of platitudes will excuse the indifference of educated men to this great evil.

If it were possible to do away with prostitution, the piping voices that are protesting against the recognition of its existence might be listened to, but the scarlet token in the window is still an ensign of the strange woman in every land, as when Rahab, the harlot, displayed it, and Tarmar, who sat in the open place and enticed the fathers of Israel, will be sitting there when our grandsons shall themselves have grandsons. While praying fervently for millennial purity, it is the evil of to-day with which we have to deal. Popes, emperors and kings have attempted the suppression of prostitution, and when all the powers of army, church, and state have failed, what can a few, however earnest, men and women hope to accomplish by moral suasion. There is scarcely a country in Europe in which the experiment of crushing it out has not been tried, but wherever the scarlet woman has been driven from her den, she has found lodgment in the homes of the people. While the moralist preaches the sanitarian must act. The sources of preventable disease, whatever they are, must be assailed.

(Dr. Gihon next gave an elaborate resume of the sources of acquiring syphilis by mediate contagion, quoting from the literature of this subject and illustrating by a narration of authentic cases the dangers of mediate contagion in manifold ways. Then refuting the idea that his descriptions were colored by fancy he narrates a case, reported to the Philadelphia County Medical Society by Dr. White, of an English girl he was called to see in a house of prostitution, who had been plying her trade two or three weeks, receiving on account of her personal attraction, an average of six men during each 24 hours, and in whom he found a small painless sore at the posterior commissure of the vulva, and a few enlarged inguinal glands, and who did not follow the advice to abstain from intercourse. The sore healed, but six weeks later constitutional symptoms manifested themselves. Four young men came under his professional observation, all of them infected by this girl, all had indurated sores and constitutional syphilis, one of these infected the mistress of a friend and presumably the friend, the woman giving birth to a syphilitic child, a second syphilized his wife, and a third fell into the hands of quacks and became a wreck. In the words of Dr. White, "It would be idle to speculate about the possible extent of the damage inflicted upon this community by this one woman. One thing, however, is certain, if by any means that sore could have been discovered within a day or two of its appearance, and that woman forcibly and peremptorily isolated, and kept so while she suffered from contagious lesions, most if not all of these endless and ever widening series of evils could have been prevented." Dr. Gihon then continues: "Can that creed, or dogma, or religion hope to outlast its fanatical pretenders, which stays the hand outstretched to lift even an erring woman from the slough into which she has fallen, or holds back the youth from plunging headlong into it, which extenuates indifference. or antagonism to whatever might have saved the life of a single human being.

What can we do to cripple this hydra? In eleven years, according to the official statement of the Surgeon General of the Navy the amount of venereal disease on the Asiatic station has fallen from 425 per thousand to 112 due to the examination of prostitutes practiced at Hong Kong and in Japan, and the seclusion of infected women in Lock Hospitals.

The working of the Contagious Diseases Acts in the Plymouth and Davenport districts, which includes a radius of ten miles from Plymouth, and also from Dartmonth, has shown, that in fifteen years, in a single district, notwithstanding the normal growth of population during that time, and the considerable territorial extension of the district during the last ten years of the period, that the effect of these acts has been to lower the number of inmates of houses of ill fame from 3,220 to 665, a reduction of eighty-two per cent, the number of prostitutes from 1,770 to 427, a diminution of seventy-six per cent of brothel keepers from 579 to 108, or eighty-two per cent., and of children living in brothels from 662 to 124 or eighty-two per cent, and in this connection it will be observed that while the number of keeper's children has been reduced eighty-four per cent that of the offspring of the women themselves has only fallen seventy-one, showing a relative increase in the proportion of child bearing women, itself an evidence of physical improvement. Finally, instead of 209 female servants living in bawdy-houses in 1865, there were but six in 1880, and instead of 120 male dependants upon the nefarious occupation as pimps, crimps, and whore-house bullies, there were but two.

In 1860 there were 369 cases of venereal disease, 183 of which were syphilis, among every thousand men in the British Army at home, while in 1878 there were only 133 per thousand of which 61 were syphilitics, at the stations protected by legislation, where the diseases were originally more rife. The diminution in the ratio of syphilis at stations protected by the contagious diseases acts has been almost double (76—41) that at places where there were no such regulations. Like testimony comes to us from another quarter of the world. What has occurred in Europe, Japan, and India, has also resulted in America, the Lock Hospital system has resulted in a decided diminution of disease.

Medical officers of all nationalities, who have had professional cognizance of these diseases in every quarter of the world, are unanimous in approval of restrictive legislation.

So long as a class of women live by the wages of prostitution, they should be considered as offenders against society and public morality, whom it is proper to place under surveillance, and this involves systematic inspection and control, both of which are of great importance not only for the prevention of disease of which this unfortunate class are the propagators, but for the diminution and detection of other crimes of which they are often the abettors. Legal inspection in their case is also humane and expedient as affording them the means of escape from the peril of their miserable lives.

I ask your attention to the propositions we have submitted to the American Public Health Association, and which has received its endorsement, contemplating the classing of venereal disease with other contagious affections and its restriction by means precisely similar. Our conclusions were formulated in this resolution:

Resolved, That the American Public Health Association earnestly recommends the Municipal and State Boards of Health to urge upon the legislative bodies of this country the enactment of a law constituting it a criminal offence to knowingly communicate by any direct or indirect means a contagious disease, such as smallpox, scarlet fever, or venereal disease, and giving to said State Boards of Health and to the State and Municipal officials under their control the same power in the prevention, detection, suppression, and gratuitous treatment of venereal affections which they now possess in the case of smallpox, and other contagious diseases.

By direction of the Association, with a view to securing uniformity in legislation in the several States, the Committee has been instructed to prepare draughts of a State law and Municipal ordinance calculated to secure these results, on which labor it is now engaged and in which purpose, gentlemen of the Medico-Legal Society, I have come to solicit your counsel and cooperation.

The following is the act reported to the American Public Health Association, by John Morris, M.D., of Baltimore, Md., on behalf of the Committee on prevention of venereal diseases.

An Act Entitled An Act to Prevent the Spread of Contagious Diseases.

Article I. Be it enacted by the ——— of the ——— That any person within the limits of the

State, who shall knowingly communicate or be instrumental in communicating by any direct or indirect means, a contagious disease, such as smallpox, scarlet fever, or venereal disease, shall be deemed guilty of misdemeanor and shall be subject, upon conviction in any of the circuit courts of the counties of this State, or in the criminal court of the city of ———, to a punishment of six months' imprisonment in the —— of the State of ——

Article II. *Be it further enacted*, That if any person being the owner or occupier of any house, room, or place, within the limits of this State having reasonable cause to believe any person therein to be affected with a contagious disease and fails to make that fact known to the proper health authorities he or she shall be deemed guilty of a misdemeanor, and on summary conviction in one of the circuit courts of this State, or in the criminal court of the city of ———, shall be liable to a penalty not exceeding one hundred dollars, or at the discretion of the judges of the circuit court of the State, or of the judge of said criminal court, be imprisoned in the county jail of the county in which conviction takes place, or in the city jail of —— for any term not exceeding six months.

Article III. *And be it further enacted*, That the State Board of Health with the approval of the Governor and the Health Board of the city of —— with the approval of the Mayor of said city shall have power to institute and carry out all suitable means to prevent the spread of diseases of a contagious character and may if deemed advisable remove to proper hospitals selected by them all persons suffering from contagious diseases, who neglecting proper precautions, imperil the health of the community.

Article IV. *And be it further enacted*, That this act shall go into effect on the first day of——.

—*Medical Gazette.*

RECENT PROGRESS IN DERMATOLOGY.—Dr. Geo. H. Tilden contributes this essay to the *Boston Medical and Surgical Journal*, from which we extract the following:

Micrococci of Lupus.—For over a year past Max Schüllers (*Centralblatt für Chirurgie*, Nov. 19, 1881, No. 46, p. 1) has examined lupus with especial reference to the presence of micrococci. The portions of diseased tissue in which micrococci are most easy of detection are the small, young nodules, which, embedded in the connective tissue, underlie and surround the larger and older centres of the disease. The freshly excised bits of tissue were placed immediately in a one per cent. solution of carbolic acid in water, in order to exclude any accidental access of micrococci. Sections of these made with a Roy freezing microtome, were colored in a one per cent. solution of methyl-violet in water, washed to remove excess of coloring matter, and put up in oil of cloves or glycerine. By this process only the cells and micrococci are colored blue, while the connective tissue remains uncolored. Powers of 600 and 1120 diameters were used, and Abbé's system of illumination with condensed artificial light. In the groups of round cells and single epitheloid cells which go to make up a lupus nodule, micrococci were seen situated between the cells, and also surrounding the individual groups of cells. From various points in the periphery of such a group of cells, rows of micrococci run out into the adjacent connective tissue, sometimes reaching as far as the next group of cells. As a rule the micrococci were not crowded together, but rather loosely distributed. In many specimens they were to be seen arranged around the large, nucleated epitheloid cells which lie scattered about in the neighborhood of the smaller lupus nodules. Each one of these large cells formed the centre of a group of micrococci, which sent out offshoots into the surrounding connective tissue. In regions where these large cells were more crowded together, it was not unusual to see rows of micrococci running from one cell to another, and when several of such rows met, at the points of intersection ensued small, star-shaped groups of micrococci. In the large and fully developed lupus nodules micrococci are very difficult of detection, by reason of the fact that the contained cells are very closely packed together. Nevertheless, in very thin sections, micrococci may be seen sparsely scattered about. They are invariably easy of demonstration at those points in the circumference of the larger lupus nodules, from which accumulations of cells extend in the form of long processes into the surrounding connective tissue. The free ends of such rows of cells are surrounded by groups of micrococci, which are also connected with the collections of micrococci belonging to the neighboring and smaller lupus nodules. Within the limits of diseased tissue micrococci were also found in the hyperplastic sebaceous glands, in the sheaths of the hairs around the coils of sweat glands, and occasionally in the walls of the smaller blood-vessels. In one case of superficial ulcerating lupus of the nose, micrococci were found in the epidermis between the hypertrophied papillæ of the skin. The younger the lupus formation and the softer the surrounding tissue, that is, the less amount of cicatricial tissue present, the more abundant and the more distinct were the micrococci.

Iodoform in Lupus.—Dr. Rielh (*Wiener Med. Wochenschrift*, 1881, xxxi., page 534), has used this drug as a local application in lupus vulgaris with flattering success. In order to remove the epidermis, and thus render the diseased tissue accessible to the action of iodoform, a fifty per cent. solution of caustic potash was applied to the skin after the removal of all dirt and grease from the same by means of washing with soap and water. Left in contact with the skin, a caustic solution of this strength in from one-half to two minutes causes transparency, swelling, and detachment of the epidermis. This effect produced, the excess of caustic potash was washed off with water, the surface thoroughly dried, and a layer of finely powdered iodoform from one to two millimetres in thickness was applied to the surface which had been denuded of epidermis. This, covered with cotton batting, retained in place by strips of sticking plaster, was left undisturbed for from five to eight days. In no case was there suppuration, and on removal of the dressing the iodoform was found embedded in the depressions formed by the disappearance of diseased tissue. Adherent at some points, at others, which were in process of cicatrization, the iodoform was merely superimposed. The sound skin between the points of pathological infiltration was pale and soft, and the general swelling and redness of the parts had in great measure diminished. In severer cases, while there was never suppuration, two or three successive applications of this dressing were required before the pathological infiltration of the tissues disappeared. The application of iodoform to surfaces of skin denuded of epidermis caused neither pain nor any disagreeable sensations. To do away with the pain necessary to the application of caustic potash local anæsthesia may be used. The author has used this dressing in twenty cases of lupus, and always with good result.

The Employment of Permanent Baths with Very Young Infants.—Dr. Winckel, of Dresden, has a very interesting paper on this subject. [The expression *permanent*, as will be seen, has only a limited meaning here, since in the experiments made the bath was not used for more than twenty-four hours at a time. Still further trials are to be made, and longer periods of immersion are suggested.] The following conditions form indications for this treatment: 1st. A deficient degree of vitality in children from twenty-eight to thirty-six weeks of age, with whom the usual methods of securing warmth by wrapping in cotton, by warm baths, etc., seem inefficient. 2nd. Great weakness after deep asphyxia in consequence of hemorrhage at birth or afterward from an imperfectly-tied navel-string. 3d. Extensive lesions of the skin, especially excoriations of the nates, genitals, and heels, besides extensive pemphigus not of a syphilitic nature. These are indications, partly because the pain is a source of great trouble to the little ones, partly because of the pressure and friction of the clothes, partly because otherwise the moderate employment of medication upon the abraded skin and the cleansing of the skin from urine and fæces are unavoidable. 4th. Decided emaciation from gastric and intestinal catarrh is an indication in order to protect the surface from pressure, to avoid abrasions, and to take the place of the abnormally small generation of heat from within by heat from without. Other indications might be added, as the various diseases of the cord, erysipelas, etc., in all of which immersion of the child to the chin in warm water, medicated, perhaps, with calamus, chamomile, infusion of walnut-leaves, gelatine, malt, or iron, might offer favorable results. This idea is not claimed by the author as original, since it had occurred to even the earliest writers and practitioners. The tank for carrying out this treatment is constructed with the following details: Length fifty centimetres; breadth twenty-nine centimetres; depth, twenty-two centimetres. The bottom is inclined from the center toward either end, the middle point being nine centimetres higher than either end. At the *head* end is a depression thirteen centimetres deep and eleven wide, which projects over the upper border of the tank. From this proceeds a rest for the back eight centimetres broad and six long. The tank holds twenty litres, with openings for the discharge of the water upon the bottom at both ends. A cover fits over the tank, which has a window twenty centimetres long and fifteen broad, through which the greater part of the body can be seen. There are three openings in the cover closed by corks, through which warm water can be poured as desired and a thermometer inserted to ascertain the temperature of the bath. A rubber pillow is fitted into the depression for the head, and there are rubber rests at the sides for the arms. A screen is adapted over the head depression to protect the infant from too strong light and flies. Ths author has used this tank with success, keeping the children in it for twenty-four hours at a time, during which he declares they drink and sleep well. One child suffered greatly from dyspnœa and cyanosis before the bath. When immersed, the breath became easy, the cyanosis disappeared, nourishment was was readily taken, and the child revived. A very carefully constructed table is given by the author, embracing a series of six cases, showing the various changes in the condition of the patient, the temperature of the water, and the nourishment—in a word, all the details in the management of the patients while in the bath. He next raises the question as to whether in the clinic and in private houses circumstances warrant the extra trouble and care necessitated by the method proposed, answering in the affirmative, since the greater comfort and health of the child are insured, and as to the trouble, even in the poorest families, with the tank furnished, it would be a small matter to add half a litre of water every half hour or hour, in order to keep the temperature of the bath at from 35° C. to 37.5° C. Even restless children became quiet, according to the author's experience, while in the bath, and drank and slept better; indeed the appetite seemed to be increased. One of his patients died of enteritis while immersed, but seemed more comfortable while thus treated—seemed to suffer less pain than when out of the bath. He apprehends no trouble from the urine and fæces, since the water can be drawn off as frequently as necessary. The author does not consider his experiment concluded as yet. He has made some improvements in the construction of the tank, and thinks the success already obtained opens a wide field for investigation as to the variety of diseases to be treated, the length of time during which it would be well to keep the child immersed, the temperature of the bath, and, in general, the conditions best suited for its employment.—*New York Medical Journal and Obstetric Review* from *Central Bl. für Gynäk.*

Aetiology of Rachitis.—Prof. Oppenheimer, in the introduction to his thesis, submits all theories concerning the aetiology of rachitis to an exhaustive review, and comes to the conclusion that none are tenable; partly, because they do not agree with clinical observations, and partly because they are devoid of experimental proof. He especially opposes the hereditary theory, declaring that there is not a single fact offered for its support, since many parents, who were rachitic, have healthy children, while on the other hand, children of healthy parents may acquire the disease. He denies the existence of a congenital rachitis. He also shows the fallacy of the chemico-physiological explanations, according to which rachitis is attributed either to a deficiency in the amount of calcium and phosphates contained in the food, or to an insufficient quantity of muriatic acid during stomach digestion, (Seeman), or to an excess of oxalic, acetic or lactic acids in the intestines (Hutzmann, Senator). In like manner he treats the investigation of Wegner, who claims that the introduction of phosphorus, accompanied by a decrease in the amount of chlorides, produces a condition of the skeleton analogous to that found in rachitis. Finally, he declares that the assertion that syphilis, tuberculosis, etc., in the parents, as also prolonged lactation, may produce rachitis in the child, lacks confirmation.

The direct and causative element Oppenheimer seeks in a field where hitherto, no physician has ever directed, viz: "malarial infection." Although this declaration of Oppenheimer may at first surprise the reader, yet we cannot deny that we are dealing with an ingenious doctrine. He proceeds to prove his hypothesis in a very conscientious and thorough manner.

Firstly, he calls attention to certain prodromata, which are wont to precede the rachitic symptoms, and which have hitherto been overlooked. To this class, then, belong certain characteristic forms of chronic diarrhœa; characteristic because they appear only at certain periods of the day, while during the remainder of the day no sign of intestinal disturbance is manifest. The passages are also characterized by the large amount of water and by the want of biliary coloring matter; to this there are added in a few days, enlargement of the spleen, and usually; symptoms of an accompanying intermittent fever. The enteritis in the treatment of which the administration of quinine is followed by excellent results, is succeeded shortly by rachitic changes in the osseous tissues. The author cites seven cases to substantiate these observations. Another form of prodromata consists in the crying of children, which recurs every night, which is almost always accompanied by a rise in temperature and followed by sweating. At the same time we notice an acute hypertrophy of the spleen. A third class of prodromata are the febrile attacks and night sweats, which have already been described by Senator, who, however, did not classify them with malaria.

The author then describes the symptoms attending the course of the disease. A portion of these, such as the disturbances of lungs and heart in consequence of the deformity of the thorax, the spasm glottidis, certain forms of eclampsia, etc., is probably due directly to the diseased bones, but another portion, as the periodic fever, sweating of the head, as also the periodic diarrhœas which occur during the progress of the disease, are to be regarded as symptoms that are connected with the osteal affection but which are the immediate expressions of a malarial infection.

Finally, the author describes cases of rachitis in the advanced stages and of a severe type, in which there may be noticed, together with the alterations of the skeleton, a general atrophy and a chronic hypertrophy of liver and spleen accompanied by marasmus of all organs. He identifies this condition with the malarial cachexia of adults, and it must certainly be admitted, that, with the exception of the osseous deformities which are constantly present in rachitis, but not noticeable in adults suffering with malaria, there exists a great resemblance between the two cachexiæ.

The disease of the bones the author explains as a result of the difference between the growing bone of children and the fully developed bone of the adult; the former retaining during the early period of life their fœtal structures, and hence are more susceptible to disease, while the solidified osseous structure of the adult skeleton is not liable to undergo such degenerating alterations.

Oppenheimer claims that his theory is somewhat sustained by the co-existence of malaria and rachitis in the same geographical districts and that whenever cases of rachitis occur in a region free from malaria they must be attributed to a specific disease-breeding agent, perhaps propagated in the sick-room, to which the infant organism is very susceptible and which is identical with the malarial miasm.

As a result of his observations Oppenheimer adduces the hypothesis that rickets is a form of intermittent fever, the difference between which and the malaria of adults may be explained on the one hand by the susceptibility of children to the malarial poison, on the other hand by the fœtal structure of the infant osseous tissue. Whether this hypothesis, which is certainly interesting and original, will be substantiated or not it is truly characteristic of the present status of medical science; and gradually the circle of diseases, for which a specific organic germ is found, grows wider and wider.—*St. Petersburg Med. Wochenschrift.* G.A.F.

THE PATHOGENY OF ADDISON'S DISEASE.—Prof. Mariano Semmola, of Naples, as a result of recent observations, affirms with renewed assurance the declaration made by him last year in the International Medical Congress at London; to-wit; that Addison's disease must be considered an affection of the ganglionic nervous centres, and that the changes in the supra-renal capsules are by no means the starting-point of the disease, but rather are the product of trophic changes in the nervous filaments presiding over the nutrition of these organs.

In support of his views, the learned Professor relates a case in which he observed, as the characteristic morbid lesions, microscopic alterations in certain points of the ganglionic centres and the dorsal portion of the cord, these alterations consisting in a myxomatous degeneration of the ganglionic stroma of the celiac plexus, and in an infiltration of leucocytes in the portion of the spinal canal surrounding the central canal.

The author remarks, too, that in another case he observed also a fatty degeneration at various points in the solar plexus.

That which makes these observations all the more interesting is the fact the microscopic examination failed to reveal in one case, any lesion of the suprarenal capsules.

He therefore concludes from this that Addison's disease is a profound disorder of the renal nutrition, consequent upon a successive alteration in the function of the sympathetic and various nervous centres of organic life (the cardiac plexus, solar plexus, etc.) He lays special stress upon the pathological physiology of the ganglionic nervous centres, and explained with great exactness the symptoms which he has encountered by degrees in the course of the disease, as for example, the digestive troubles, the cachectic state, the decline of temperature, etc.

In regard to the bronzed skin, which is the characteristic symptom of Addison's disease, when it is the accompaniment of asthenia and and disturbance of digestion, he says that the cause must be in the supra-renal capsules, since he has observed a case in which this feature of the disease was strongly pronounced, while a histological examination revealed no alteration whatever in these organs. He admits, however, that the sympathetic and the ganglionic nervous centres may preside over the formation of the pigment, an opinion supported by physiology and the occurrence of a large number of cases, of melanosis and others alterations in the color of the skin and hair occurring in the course of a few days, under the influence of active mental emotions.

In conclusion, the author reiterates his opinions of the therapy of the disease, inasmuch as he has seen a patient suffering from Addison's disease, who had syncope every time he attempted to sit up in his bed, and who, treated for three months with the constant current (one pole placed on the nape of the neck, the other over the epigastrium), so far recovered his strength as to be able to ride horseback daily without experiencing fatigue. Another patient experienced, in addition to the restoration of strength, an improvement of digestion; and what is most remarkable, the pigmentation of the skin disappeared in certain places.

This therapeutic result is, without doubt, of great interest as regards the treatment of the malady under consideration, and to some extent adds authority to the theory introduced by the author.—(*Giorn. int. del. scienc. med. et Giorn, di clin. et therap.*)—*Lyon Médical*, April 23. J.M.F.

HÆMATIC CRISES. — Under the name of "hæmatic crises" M. Hayem has described the alteration in the constitution of the blood which attends the critical periods of those acute diseases that are marked by sudden defervescence. This alteration in the blood occurs so constantly, and with such well-marked features, that it merits the name of "crisis" as thoroughly as does the alteration in temperature. The essential characteristic of the hæmatic crisis is the transient accumulation of hæmatoblasts in the blood. Normally the proportion is one hæmotoblast to twenty red corpuscles, and when the conditions of blood-formation are normal this proportion is nearly constant. During the course of acute diseases the number of hæmatoblasts is decreased, and then suddenly at a certain period undergoes a rapid increase, while that of the red corpuscles remains nearly the same. In forty-eight hours the number of hæmatoblasts is double. Twenty-four hours later, however, it presents a notable fall, and gradually sinks to its original figure. If the changes are represented in a graphic diagram, the variation in the number of hæmatoblasts takes the form of a cone with a very sharp apex. This hæmatic crisis is never wanting in these diseases, and it is quite comparable to that which is indicated by the temperature. It commences towards the end of the malady, usually at the moment when the temperature begins to fall, and attains its height on the day on which the temperature is for the first time normal, when defervescence is complete. In the eruptive fevers, such as scarlatina and measles, in which a febrile temperature may continue after the defervescence which follows the eruption, the hæmatic crisis attains its acme at the end of the partial defervescence which follows the eruption. Whatever the original number of the hæmtoblasts and of the red corpuscles, the abnormal proportion attained at the period of the greatest accumulation of the latter is always the same. The average is one to seven, and it only varies between narrow limits—from one to six to one to eight. The red corpuscles are at a minimum at the period of the commencement of the hæmatic crisis, when the hæmatoblasts begin to accumulate in the blood. They increase in number during the course of the crisis, especially in proportion to the return of the hæmatoblasts to the normal number. The new corpuscles, however, contain less hæmoglobin than do the adult corpuscles. Hence the value of the corpuscles (i.e., its average richness in hæmoglobin), which was unchanged during the course of the disease, lessens considerably during the new formation of the elements of the blood, the fresh elements for a time imperfectly developed. The blood thus presents the characters of a slight degree of anæmia, and so remains during the whole of the convalescence. The hæmatic crisis is the indication of the attempt at reparation of the blood which occurs at the end of acute diseases. During the course of these affections, the process of blood formation is hindered, but when the morbid cycle arrives at its close, there is the sudden attempt at reparation, commencing by a great increase of new red globules—i. e., hæmatoblasts—and soon these imperfectly developed elements are transformed into red corpuscles, which only very slowly acquire their due proportion of hæmoglobin. The phenomena are similar to those observed after considerable loss of blood, which is followed by an augmentation in the hæmatoblasts, preceding an increase in the red corpuscles.—*London Lancet.*

DIABETIC ENDOCARDITIS, by M. Cecorché.—The multiple inflammations which are so often manifested in the course of diabetes, leave no doubt of the tendency of this disease to produce in individuals affected with it, an inflammatory diathesis. But these inflammations do not become localized only upon the skin, in the digestives apparatus, in the kidneys or the lungs, they can involve other organs. Recently we brought to the notice of the Academy of Medicine (scéance de December, 1881) as one of the rather frequent complications of diabetes *atrophic cirrhosis of the liver.* To-day we wish to draw attention to *endocarditis.*

Diabetic endocarditis as we have many times observed, appears to show itself more frequently with woman than with man (eight times in fourteen). We have met it only of a chronic form, and only in subacute, or chronic cases of diabetes.

It appears only in an advanced state of this disease, two or three years or even more after its beginning. Its appearance is due less to the intensity of the glycosuria than to its long duration.

It localizes in the vicinity of the mitral orifice, we have only once seen it seated at the aortic orifice.

Its existence is characterized by a *bruit de souffle* with the first beat, and at the apex by irregularity and intermittence of the pulse.

It is sometimes accompanied by atheromatous degeneration of the arteries (two cases out of fourteen).

It hastens the cause of the diabetes, and often brings about death, perhaps provoking a more or less general œdema, ascites, perhaps being itself complicated with an acute hepatitis.

It appears to be due to the irritation which the prolonged contact of the blood altered by excess of sugar, produces on the internal membrane of the heart.—*Bull. Gén. de Thérp.*

PILOCARPINE IN PLEURISY.—M. Corireaud, of Blaye, and M. Farge, of Arigers, have reported several cases where they have employed pilocarpine, with favorable results, in the treatment of pleurisy. The recovery usually occurred in from eight, ten to fifteen days; and from six to ten hypodermic injections of the remedy were all that was required.

The nitrate of pilocarpine was the preparation used, and this was given in the dose of from one-fourth to one centigram. M. Coriveaud attributes the remedial effect to the action of pilocarpine as a sialagogue, but M. Frage thinks it due, in the cases observed by him, exclusively to its diaphoretic action. — (*Revue Scientif.*) — *Lyon Medical,* April 23. J.M.F.

CHLOROFORM-MORPHIA NARCOSIS. — At the meeting of the "Medicinische Gesellschaft zu Leipzig," February 8th, 1881, Prof. Thiersch spoke about a mixed chloroform-morphia narcosis. By means of this mixed narcotic, a condition of complete analgesia is produced, in which the patient feels no pain whatever, although he is not thoroughly anæsthetized, the reflex action is retained. One can speak with the patient; he expectorates upon request. In a case of external urethrotomy, the patient strained when told, so that the central end of the urethra could be at once found.

Prof. Thiersch endeavored to find out the circumstances, in which such a narcosis could be expected with a degree of certainty.

He recommended the following methods. During the five or seven minutes after the subcutaneous injection of morphia the patient is to be slowly chloroformed till the stage of excitation is reached, then the amount of this agent is to be diminished. As soon, however, as the patient complains of pain, the chloroform is again to be increased.

The dose of morphia given hypodermically varies; in drunkards, 0.03 to 0.06 (gr. $\frac{1}{2}$-1); in men, 0.03 (gr. $\frac{1}{2}$); in women, 0.015 (gr. $\frac{1}{4}$); and in children 0.005 to 0.010 (gr. $\frac{1}{12}$ to $\frac{1}{6}$).

In this way was Prof. Thiersch often able to produce a long continued analgesia in tedious operations.—*Ber. Klin. Wchschrft, No.* 7. L.J.K.

SURGERY.

ALTERATION OF THE LEVEL OF THE BREAST IN CANCER.—In his recently published work on cancer, Mr. Nunn, of the Middlesex Hospital, London, states: "Further, the entire breast is displaced. A line drawn from one nipple to the other will be found not to be horizontal, but inclined towards the unaffected side. This is easily shown by placing a piece of string so that its position shall coincide with the line drawn from one nipple to the other; the nipple of the affected side will then be seen to be *elevated* above the true horizontal line of natural symmetry. It sometimes happens that in a case of cancer the nipple may not have been elevated, but I have not met with an instance in which elevation of the nipple existed and cancer disease was absent."

The same writer declares that "cancer has inherently the tendency to automatic destruction. Sarcoma continues to extend, almost without limit, by the repetition of the same tissue elements, and crumbles down by its sheer bulk; while the cancer begins to be disintegrated by the fatty degeneration of the protoplasm, almost, one may say, from the very beginning." P.S.C.

GEOGRAPHICAL DISTRIBUTION OF CANCER.—In 1879 Mr. A. Haviland wrote as follows respecting the mortality from cancer in England and Wales. "The mortality from this cause is highest in those districts which skirt the banks of the rivers of our country which are (seasonally) flooded. The Thames runs through a vast cancer field; in fact, throughout England and Wales there does not exist an important river, subject to seasonal floodings, that does not flow through high mortality districts. This was an unexpected fact. Having ascertained it, however, I studied the physical and geological characters of the districts where cancer did not thrive, and I found that all these districts were characterized by being high and dry, and geologically composed of non-retentive soils—permeable soils and subsoils in fact. After discovering the first fact, it was natural that the second should follow, and so it did. The high, dry sites on the older rocks are the places where cancer does not thrive, and it does thrive in the vales by the sides of the large rivers which overflow their banks, and in the neighborhood of which are to be found the drifts of ages of washings from the inhabited country above. With such knowledge, it would follow that whenever there is a tendency to cancer, the sufferer should be moved to high, dry sites, and, perchance, if whole families were thus to migrate, we should not have so much of the hereditary character of cancer, or of many other diseases." P.S.C.

THE EXTIRPATION OF GOITRE.—Dr. A. Wölfler makes the following report of this operation in Prof. Billroth's clinic for the past five years (*Wien. Med. Wochenschrift*):

In the course of the last five years Prof. Billroth has extirpated a goitre 58 times in 55 patients, of whom 48 recovered and only 7 died, giving consequently a mortality of 12 per cent. Two cases died from intercurrent maladies, and five cases had had for some time previously a malignant neoplasm of the thyroid gland, four of whom recovered. There were thus left 48 extirpations of goitre with four deaths, a mortality of 8·3 per cent., whereas in the 36 cases operated upon by Prof. Billroth in the years 1860-1876 the mortality amounted to 36·1 per cent. Tracheotomy was performed before or after the operation in five cases. The mortality in those cases where tracheotomy was not performed is reckoned at only 2·3 per cent.

Of the 48 patients, 15 were men; 33 women. In the latter the operation was frequently desired only for cosmetic effect. Total extirpation of the enlarged thyroid gland was made in 22, in 24 only a half, and in only two cases the goitre could be simply shelled out of its capsule. Recovery occurred, on an average, in 21·8 days.

With reference to the paralysis of the inferior laryngeal nerve, the following were accumulated at the dismissal of the patients:

In 31 cases, no paralysis of vocal cord.
" 11 " unilateral " " "
" 2 " total " " "

In three patients the paralysis existed before the operation.—*St Petersburger Med. Wochenschrift*, March 11, 1882. J.F.M.

PARTIAL RESECTION OF THE URINARY BLADDER.—This was the subject for discussion in the Society of Physicians, at Budapest, January 7, introduced by Dr. Fischer. (*Pest. Med. Chirurg. Presse*).

This operation was first performed by Pott; afterwards by Chopart and Desault. In our century, however, it is seldom undertaken. Dr. Fischer has experimented on eight dogs and comes to the following conclusions:

The excision of a portion of the bladder is not so dangerous as the opening accompanying the high operation for cystotomy; the repair occurs immediately, when the edges of the wound have been accurately adjusted. In uniting the edges, the interrupted suture was found to answer as well as the continuous.

The author proposes the following indications for resection of the bladder:

1. Traumatic lesions, with crushing of the edges of the wound.
2. A diverticulum of the bladder, in case of encapsulated stone.
3. The protruding lips of vesical hernia.
4. Extensive general dilatation of the bladder when the cause is a remote one.
5. Neoplasms situated deep in the texture of the bladder.
6. Various vesical fistulæ.
7. Destructive ulcer of the bladder, threatening rupture.

(The difficulty necessarily attending the diagnosis of part of these indications is much against them. Reviewer).—*St. Petersburg Med. Woch.* March 11. J.M.F.

EXCISION OF A STRICTURE OF THE DESCENDING COLON.—Mr. Thos. Bryant lately reported to the Royal Medical and Chirurgical Society an interesting case, in which he successfully excised a cancerous stricture of the descending colon through an incision made for the left lumbar colotomy. The patient, a lady aged fifty, had suffered from complete obstruction for eight weeks, and was very feeble. The stricture could not be felt from below. The bowel was removed through the oblique incision made for the left lumbar colotomy, by simply pulling the strictured segment through the wound and stitching each portion of the bowel with its two orifices as divided to the lips of the wound. The stricture was annular and so narrow as barely to admit the passage of a No. 8 catheter. Mr. Bryant believes this new operation is applicable to not a few cases of stricture of the descending colon. These annular strictures, and their excision should be entertained as soon as the diagnosis is made, and in every case of chronic obstruction of the descending colon the possibility of removing the diseased bowel should be considered before the bowel is opened for a colotomy operation. The operation should not be postponed too long. —J.B.M., in *Louisville Medical News.*

SULPHIDE OF CARBON AND IODOFORM IN PHAGEDENIC ULCERATION.—From the *Revue Médicale* we note that Dr. J. Chéron, at the hospital of Saint Lazare, employs the following solution: Sulphide of carbon, thirty parts; iodoform, five parts. Iodoform dissolves readily in carbon sulphide, and the rival odors are mutually weakened by association. The pain is less severe than when the sulphide of carbon alone is applied, and it ceases as soon as the liquid has evaporated. It is best applied with a glass brush. Dr. Chéron has seen cicatrisation speedily result in cases which had proved rebellious to all the usual treatments.—*Medical Press and Circular.*

RHEUMATISMAL POTT'S DISEASE.—Prof. Potain (*Jour. de Med. Pratique*) indicates a variety of Pott's disease, described in a thesis by M. Pouliot under the name of rheumatismal spinal disease, which admits of a more favorable prognosis than other varieties of the affection. The predisposition is produced by the arthritic diahthesis, the spinal localization being induced by cold or violent efforts expended especially on vertebral articulations. Pains first occur in the spinal column, accompanied by irradiations, tingling, and convulsive movements of the limbs; then deformity of the spinal column is observed, consisting generally in anterior curvature, other rheumatic symptoms also occurring at the same time or alternately with the spinal symptoms. Paraplegia comes on gradually, but its progress is very slow, and abscess by congestion is exceptional. Resorted to in time, treatment may be followed by excellent results, and consists chiefly in powerful revulsives, especially the actual-cautery, accompanied by immobilization.—*Medical Times and Gazette.*

OBSTETRICS.

The Relations of Urinary Fistulæ to the Sexual Functions in Women.—Dr. Kroner, of Breslau, discusses this subject at length. In regard to menstruation among those who suffer from this affection, Freund says: "A disturbed menstruation is not a common accompaniment." Schwarz, on the other hand, finds that most women suffer from amenorrhœa from the time of the accident. Winckel says that menstruation may be in abeyance, may be irregular, or may be painful. The author has collected a series of sixty cases from his own and Spiegelberg's clinics at Breslau, from which he gathers the following facts: In fourteen cases only was the period regular, and in two of these the quantity was small. These fourteen cases were distributed under several varieties; eight were taken from a series of twenty-seven cases of vesico-vaginal fistula; three from a series of twenty-two vesico-utero-vaginal fistulæ; two from a series of six vesico-uterine fistulæ; one from a series of two utero-vaginal fistulæ. In thirty-eight cases menstruation ceased entirely; in five the function was irregular, appearing at intervals of from several months to a year. In two it came occasionally, and in scanty quantity; and in one appeared only once after the accident. The age of the patient seems to make no difference in regard to the cessation of the menses; thus, in twelve primiparæ the accident was followed by complete amenorrhœa, while in nine multiparæ, after a series of difficult labors, the function remained quite regular. From another arrangement of the cases already referred to, the author shows that a direct influence of the fistula itself upon menstruation does not exist. Conception took place in two cases where amenorrhœa existed, showing, again, that menstruation does not necessarily signify ovulation, or, more properly, that the latter may exist without the former. The subject of conception, pregnancy, and labor in cases where fistula exists is next taken up. The possibility that fistula and pregnancy may co-exist, once denied by Braun, is conceded, and several cases are cited in proof of the fact. Winckel, while admitting the possibility of the coincidence, considers that the number of women with fistula who become pregnant is very small. The danger of enlargement of the fistula during parturition is very great, and abortion is not an improbability. Schröder, on the other hand, declares that conception, pregnancy, and parturition are alike unaffected by fistula. Six women in the author's series of sixty cases already quoted from became pregnant. In many instances coition is difficult and painful. Sterility is sometimes due rather to atrophy of the uterus than to the influence of the fistula. The activity of the seminal fluid is undoubtedly impaired by an acid condition of the urine, but not by any alkaline condition, so that usually, in fistula cases, when the semen is ejected simply into the vagina, conception is not likely to occur. Of thirty-seven cases where it did occur, in twenty-one it occurred once; in twelve, twice; in three, three times; and in one the number is not stated. In twenty-three of the thirty-seven cases, miscarriages occurred; in nine labor came on at term. In regard to closing the fistula during pregnancy, opinions are divided. Since there is always more or less danger of producing miscarriage by such a procedure, the author is of the opinion that it is better to defer the operation until after delivery. Of five patients operated upon during pregnancy, three aborted and two went to term. Both of the latter were in the third month of pregnancy at the time of the operation, but this fact was not known by the operator at the time. As his third and final subdivision, he speaks of pregnancy and labor in cases of fistulæ which have been cured. A well-healed fistula will not yield to the traction exerted by the enlarging uterus. As to the influence of labor in this regard, eleven cases are cited where fistulæ had been closed. In nine of them there was no repetition of the accident; in the remaining two it recurred, but not in the site of the previous one.—*N. Y. Med. Journal and Obstetrical Review.*—*Archiv für Gynak.*

OPHTHALMOLOGY—OTOLOGY.

Injury of the Auricle and Mastoid Portion, Followed by Facial Paralysis.—Charles H. Burnet, M. D., of Philadelphia, writes as follows to the *American Journal of Otology.*

On November 3, 1881, John Murray, twenty-four years old, a brakeman, was admitted to the surgical ward of the Presbyterian Hospital, Philadelphia, during the service of Dr. Thomas B. Reed. At the time of his admission he was insensible, and remained out of his mind for two weeks thereafter. There was a wound running horizontally backwards from the meatus, entirely through the auricle, and communicating with a deeper wound which extended through the mastoid portion and the posterior bony wall of the auditory canal, so as to throw these two cavities into one.

Upon returning to consciousnes his statement was, that on the 3d of November last, while on duty as brakeman on a freight train, he was struck behind the left ear. He could not say how or by what he was struck. He was found insensible and bleeding on top of his car, where he had fallen while putting on the brake, he thinks something might have been thrown at him while the train was in motion, or that in putting on the brake, he leaned outward and thus struck his head against a part of a bridge, for it was a dark and foggy night, and he could not easily see what objects the train was approaching.

The sterno-cleido mastoid muscle was cut from its insertion, there was marked facial paralysis and hardness of hearing on the injured side, and there had been considerable hemorrhage, both before and after admission to the hospital.

The writer examined the case for the first time, November 29th, in the ear department of the dispensary connected with the hospital, and found the patient very weak, with the left side of his face greatly paralyzed, and a disposition to lose his vision for a few moments upon turning in bed, or rising suddenly. The wound in the auricle had healed beautifully under Dr. Reed's care. The auditory canal was somewhat obstructed with granulations in its deeper parts, but at the point of junction between the bony and cartilaginous part, on the posterior wall, the canal communicated with the wound cavity in the mastoid. A movable piece of bone, spongy looking behind, but rather smooth in front, that is, towards the auditory canal, lay in this wound and was easily pushed backwards and forwards, both from the auditory canal and mastoid wound. This piece of bone was pushed so far forward into the calibre of the canal, as to hide the drum-head from view, except at its upper and anterior quadrant.

The patient could not hear words on this side, nor the tuning fork by aerial conduction, but the fork vibrating on his vertex was most distinctly heard in the wounded ear. As no perforation-whistle was ever produced, either by Valsalva's or Politzer's inflation, the diagnosis limited the disease to the outer ear and the mastoid portion.

On December 16, 1881, the aforesaid movable piece of bone became detached from the soft parts and was removed. The drum-head now became more visible, only about one-third being hidden from view by a granulation on the posterior wall of the auditory canal; but no perforation in it could be detected. The piece of removed bone was about one-half inch in length and breadth, and three-eighths of an inch thick, rather smooth on the surface towards the auditory canal, but evidently composed of mastoid cells, traversed by a distinct canal which resembled in calibre the facial canal. Upon holding this piece of bone in such a position as to correspond with a part of the facial canal, not far from the stylomastoid foramen. Hence the facial paralysis must be explained by the assumption that the facial canal and its nerve were severed by the blow which had penetrated the mastoid portion of the temporal bone.

An ophthalmoscopic examination, made by one of the students in the ear department,—Dr. Henry Dickson Bruns, of New Orleans—revealed on the right side a quite prominent, choked disk; the veins decidedly swollen, disk very red; the arteries dimished in size, their coats white and glistening; an especially white path on nasal side of disk; the right pupil considerably larger than its fellow. On the left side the same condition was found, but it had been of longer duration.

The patient's condition continued to improve, however, in every respect, excepting in the paralyzed state of his face. The hearing improved, he ceased to lose his sight upon sudden motion, and was finally dismissed January 2, 1882, at his own request, the wound in the mastoid having closed, and the calibre of the auditory canal being nearly perfect.

THE ACTION OF QUININE AND SALICYLIC ACID ON THE EAR.—Kirchner (*Berliner Klin. Wochenschrift*, No. 49, 1881), has studied in the Pharmacological Institute of Würzburg the action of these two drugs upon the ear with reference to settling the still open question whether their well known specific action (tinnitus aurium) is due to congestion of the labryinth. Clinical observation has long since proven that they directly produce subjective noises, usually described as ringing, and also a certain, and often a very marked degree of deafness. Both of these symptoms usually pass away when the administration of the drugs is stopped; but occasionally, when the drugs have been given in very large doses or for a long time, both symptoms continue and become a lifelong and serious affliction. Notwithstanding the fact that these clinical symptoms have been seen so often, but few anatomical observations on their causes have been made.

For his experiments Kirchner used rabbits, cats, dogs, guinea-pigs, and mice; for his clinical observations he had a garrison hospital situated in a malarial district. His conclusions are that quinine and salicylic acid produce hyperæmia of the tympanum, which may go on even to hemorrhage, and that the whole labryinth is likewise involved in this hyperæmia, which is often so intense that, if it continued any length of time, it must necessarily injure the ultimate nerve fibres. The cause of this hyperæmia is referred to vasomotor disturbances, which may produce, in severe cases, a paralysis of the vessels and an exudation in the various parts of the ear,—the same conclusion which had been reached previously by Weber-Liel, Roosa, and others.

Weber-Liel (*Monatschrift für Ohrenheilkunde*, No. 1, 1882), in conjunction with Dr. Guder instituted experiments upon twelve young and healthy medical men with the following results, one gramme of quinia muriatica being given:

1. A gradual fall in the temperature of the external meatus in the course of two and a half hours, averaging .56° C. and corresponding with the fall in temperature of the whole body.
2. No hyperæmia of the meatus or drum-membrane and no injection along the manubrium was noticed within that time or later. On the contrary, in five of the cases the slight injection which previously existed disappeared.
3. Subjective noises, as roaring, buzzing, or ringing, were always produced in from one to one and a half hours, and disappeared gradually within twelve hours.
4. After from two to three hours a decided diminution of the hearing showed itself, to disappear gradually as the subjective noises ceased.
5. In eight of the cases dizziness, usually slight but in some severe enough to cause a staggering gait, came on with the subjective noises.

The greatest loss of hearing appeared at the time when the temperature was the lowest.

Similar experiments were used in conjunction with Dr. Sachs to determine the effects of salicylic acid, the conclusions being, as follows, from taking four and a half to five grams of the salicylate of soda in two doses at an interval of fifteen minutes.

1. A diminution in temperature of the meatus averaging .35° C. within two or three hours.
2. No hyperæmia of meatus or injection along the manubrium, and where any such already existed no change whatever was noticed.

3. Roaring, singing, and occasionally ringing were felt in all cases in from two and a half to four hours, and lasted longer than similar noises produced by quinine.

4. The loss of hearing was very marked and continued in several cases for some days; in several cases where the ears were diseased the loss of hearing continued much longer, in one case, it is said, for six months.

5. Decided dizziness was noticed in seven of the twelve cases, beginning somewhat later than the subjective noises.

Comparing the second series (salicylic acid) with the first series (quinine), it was found that in the second the fall in temperature was less, but the diminution in the hearing was greater and continued longer.—*American Journal of Otology.*

The Tendency to Keep the Mouth Open in Deaf Persons.—The discussion in the recent Otological Congress in Milan (*Monatschrift für Ohrenheilkunde*, vol. xv., No. 5), on the reason why many deaf persons keep the mouth open when listening, is made the subject of a critical analysis by Grüber. Various reasons have been assigned for the act. Löwenberg considered that the object was to do away with the disturbing influences of the respiratory murmurs when air passes through the nose, by transferring the air-current to the mouth; Fournié, that the improved hearing was due to an enlargement of the meatus produced by the sinking of the lower jaw; Politzer, that the movement of the jaw enlarged the Eustachian tube, and also, by some connection between the hammer and articular capsule of the jaw, increased the tension of the drum-membrane. Voltolini offered a more elaborate explanation, namely: that all the nerves and muscles are, so to say, in equilibrium in healthy persons; when one nerve-region suffers, the other region, with which the first is in equilibrium, also suffers reflexly. The facialis and trigeminus are in such a relation to the acusticus, and disease of the latter affects also the former, so that among other results we get a dropping of the jaw from affection of the nerves supplying the buccinator muscles.

After discussing these various theories quite fully, Grüber gives his conclusions as follows:

"There is no doubt that some aural patients, suffering from strong respiratory murmurs in the nose, get relief during the act of listening, by holding the mouth open; but that these respiratory murmurs are always and alone the cause of deaf persons keeping the mouth open when listening cannot be admitted."

"The appreciable improvement in hearing from opening the mouth, in many aural patients, is to be referred to changes in the external meatus and the deeper tissues of the conducting mechanism produced by the sinking of the lower jaw.

"In some of these patients it is the resonance from the position of the mouth, either alone or in connection with still other changes in the conducting apparatus, which improves the hearing."

"The increased ease of respiration caused by opening the mouth may, in some deaf persons, contribute to the improvement of the hearing."—*American Journal of Otology.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, May 20th, 1882.

The Week.

Yellow Placards.—During the present epidemic of smallpox in Cincinnati the health authorities of the city have amused themselves and perhaps believed they were causing an abatement of the scourge by placarding houses in which the disease existed with flaming yellow posters. Thus constantly keeping before passers-by notices of the presence of the pest. Just how the yellow posters were to prevent the spread of the disease we have tried in vain to find out, nor have we ever discovered that it acted as a prophylactic or cure in any case. Some effects, however, have been produced, as witnessed in the action of the Chamber of Commerce, when, during a recent session, this body of merchants as with one voice petitioned the so-called Board of Health to elect Dr. Thomas C. Minor as City Health Officer, believing that efficient action on his part would stay the disease. Said petition was filed away for safe keeping. The medical profession as a body seemed called upon to take some action in the premises, the result of which was announced in our last issue, and means suggested for stopping the spread of the disease; and in both societies the placarding of houses was unanimously condemned as a relict of the past ages, barbarous in its action and devoid of prophylactic powers. One other cause of the excitement among the people was unanimously condemned, and that was the giving out to the daily press the official statements of the number and location of cases reported to the Health Office. This antiprophylactic measure not only serves to keep the presence of the disease ever before the minds of the citizens of the city but tells the whole world of our affliction. People at a distance, reading the newspaper reports, say to themselves, if there are so many cases reported how many more must exist that are unreported, and gross exaggerations fill their minds. In reality the disease is not so bad as in other epidemics, nor the death rate so high, nor would there be any excitement about the pest if it were not for the constant glaring advertisement of its presence.

There is but one and only one way to successfully fight smallpox and that is by universal compulsory vaccination. Let our Health Board and Health Officer adopt measures to cause universal vaccination and re-vaccination by physicians and the disease will soon disappear. To the bow-wows with their yellow hand-bills conspicuously posted and reports in the daily papers, and we will hear, it is to be hoped, no more forever the voice of the Chamber of Commerce crying aloud for relief from the scourge in order that there may be a return of customers and of the influent current of shekels necessary to keep the cogs well oiled and the machinery of commerce and manufacture in healthy activity.

THE STORY OF A BUSY LIFE.—The Baron Justus Von Liebig, who died, full of years, at Munich, April 18th, 1873, will long be gratefully remembered as the great chemist who first applied the discoveries of science to the practical arts of life, and especially to medicines and foods. He has been called the "father of modern chemistry;" but he merits equally well the distinction of having revolutionized the system of scientific investigation of his day, and infused a fresh activity into the spirit of modern research. He was something more than a profound scholar, learned in the abstruse theories of his profession and seeking knowledge for its own sake. In the strongest and best sense of the term the Baron was a public benefactor, who valued his discoveries chiefly for the blessings they were destined to confer upon mankind. The story of his life is one of study, toil, and self-denial. Born at Darmstadt, Germany, May 12th 1803, his youth was spent in his native town. The foundation of education was laid at the local academy, and he disclosed, at a very early age, a remarkable aptitude for scientific studies. An experience of ten months in an apothocary's establishment preceded his admission into the University of Bonn, when a mere lad of sixteen, and he was still in his teens when he received the degree of M. D., at Erlangen.

He was fortunate enough, at this juncture, to secure the favor of the Grand Duke of Hesse-Darmstadt, under whose patronage he went to Paris, in 1822, and spent two years in the study of chemistry. At Paris he had the still further good fortune to attract the attention of Humboldt, the great explorer, through the originality of a paper on explosives, which he read before the French Institute. From that moment his rank and reputation were assured. By Humbolt's influence, he was appointed, at the age of twenty-one, adjunct Professor of Chemistry at the University of Giessen, and two years later was raised to the full dignity of Professor.

It was then that he made his first departure from the beaten track of University study by establishing a laboratory for practical analysis and the investigation of chemical phenomena. It soon became famous, and among the students who gathered around him were many who, like Playfair, became afterwards scarcely less distinguished than Liebig himself.

For twenty-eight years he pursued his researches at Giessen,—years of ambitious labors and brilliant results. It was during this period that he gave to the world his great treatise on the application of chemistry to agriculture and physiology, and his familiar letters on the same subject for the first time brought the general principles of the science within the range of popular comprehension. They gave, indeed, an impetus to scientific progress in Germany, that transformed the whole character of university culture. Even the old Universities of Göttingen and Würzburg, were forced to establish new professorships. In 1852, yielding to oft-repeated offers, the "Baron" (not an empty honor, for the title had been conferred upon him in 1845 in recognition of his distinguished scientific services by the Grand Duke) accepted the leading professorship at Munich, and, in 1860, succeeded to the Presidency of the Academy of Science. A list merely by titles, of this remarkable savant's publications, would occupy many pages. He concealed nothing of his work, but communicated freely to the world the results of his researches. An enthusiast by nature, he had the faculty of kindling enthusiasm in others, and while his speculations engaged the profound attention of his contemporaries in the British and Continental Universities, it was to the work of instructing the masses and bettering their condition, and alleviating human misery generally, that he principally addressed himself. The spirit of true philanthropy, which lent such a genial expression to his open and kindly countenance, dwelt in his heart, and gave a noble and benificient direction to his studies. As an illustration of the great chemist's goodness of heart, nothing could be more touching than an incident which his friend, pupil and companion, Proffessor A. W. Hofmann, of Berlin, relates as falling under his own personal knowledge.

"Many years ago (in 1853), says Prof. Hofmann, "Liebig was making an excursion among the mountains of the Tyrol, and I and two other of his friends had the happiness of being his companions on the tour. In the course of our rambles one morning, we overtook an old soldier who was traveling slowly along the road, much worsted by fatigue and obviously enfeebled by disease. As we came up with him, he accosted us with a piteous tale, and humbly implored our aid. Following Liebig's example, whose purse on such occasions, was ever as fully open as his heart, we made up among us a little stock of florins, which the poor man evidently regarded as a small fortune dropped by Providence into his hand; then pushing forward we soon left him behind, and in half an hour's time reached a village inn at which we agreed to rest ourselves and dine. While thus engaged, we observed our wayfarer also enter the inn. It pleased us to reflect that for this once, at all events, he had the means of procuring a comfortable meal; and having finished our own, we resolved to take a short *siesta* before setting out again on our journey. After some half an hour's doze, I awoke and found two of my companions fast asleep in their chairs, whilst Liebig to my surprise, had disappeared. I immediately got up, and proceeding to the bar, inquired of the inn-keeper where our friend, the elderly, spare man of our party, had gone. The landlord replied that the gentleman had been inquiring, a little while ago, for a pharmacy; and that upon learning that there was none in the village, nor any nearer than in the next village over the hill, he had set out on foot in that direction. Not without some little anxiety at the temporary dispersion of our party, I at once proceeded on the road which Liebig had taken. After half an hour's walk, I observed his figure on the brow of the hill, and hurried forward to meet him, impatient to learn the object of his solitary promenade. He answered me simply, that he had perceived in our poor soldier symptoms of low fever, such as quinine was certain to cure, and that he had been over to the nearest pharmacy to get some of this remedy. On his arrival, he added, the apothecary chanced to be absent, but his wife had given him (Liebig) the full run of the bottles, with permission to select therefrom any article he might desire, paying at his own price for whatever he might take. He went on to tell me that fortunately he had discovered the quinine bottle, and made, with a portion of its contents, a boxful of powders, sufficient, he hoped, for our wanderer's perfect cure. After another half-hour's walk the powders were delivered to the soldier with instructions how often they were to be taken. Not a word was said of the long walk they had cost the kindly donor. After receiving the poor man's expressions of gratitude, and promise to obey the instructions given him, we immediately resumed our journey, and I observed that, although Liebig had been toiling over the hills while we slept, he was not, during the remainder of our walk, the least cheerful and buoyant of the party."

His labors in abstract science bore abundant fruit in many of the useful fields of industry. It was, for instance, to his researches that the invention of silver-coated mirrors was due. It was not however, incidentally only, remarks one of his eulogists, by the collateral development of the industrial arts, that the practically benificient outcome of Liebig's genius was displayed. In fathoming the deep mysteries of organic chemistry, his penetrating curiosity could not remain indifferent to the yet more profound secrets of biology. It was Liebig who traced the primordial conditions of nutrition and growth of plants; and finally established their connection with the chemical composition of the soil in which they are rooted, and the air in which their leaves are bathed, as well as with the imponderable forces, especially the sun's life and heat, under whose influence they live. Projecting his view still further in the same direction, he also traced the influence of physical chemical laws on animal life, and especially the laws and conditions governing the nutrition and development of the animal body. In the study of biology, vegetal and animal, Liebig was the first to disentagle intricacies that had before seemed problems beyond the grasp of the human intellect to solve; and it was one of the grandest results of his philosophical and experimental investigations that he traced, amidst the multitudinous and apparently ever-varying manifestations of life, in its countless modifications of kind and degree, the operations of a few simple laws, physical and chemical, affording by their determinate combination, the precise conditions of vital development, nutrition, growth and perpetuation, from generation to generation, in unaltered individuality.

The splendid generalization of Liebig's pregnant thoughts upon the subject of artificially renewing the fertility of exhausted soils, has supplied to agriculturists the fundamental art of life, and enabled mankind not merely to secure the continuous regeneration of plants, but the perpetuation of its own existence. One of the earliest subjects to which Liebig addressed himself in the department of physical chemistry, was the question as to the origin of animal heat. The idea was suggested to him by the analogy between the processes of combustion and respiration, that the heat observed in the animal organism, must have the same origin as that which is envolved during combustion, and in a series of brilliant experiments, he established it beyond dispute. In thus studying the evolution of heat by the oxydization or slow combustion of food in the animal organism, a mind like Liebig's could not but be drawn to investigate the nature of food itself, and his high generalizing power soon led him to his well known classification of nutritive substances, according to the special purposes they are designed to fulfil in the animal economy. He demonstrated in the course of his experiments, that the nutritive part of the food of animals is the last product of the productive power of vegetables, animal food containing simply the nutritive constituents of plants, stored up in a concentrated form, and elucidated the vital doctrine that it is within the animal organism that the elaboration of fat takes place, and that the materials used in its formation are starch, sugar and similar substances which the animal finds ready prepared and stored for its use within the organism of the plant.

From his youth, indeed, the problems of organic chemistry had earnestly engaged his attention, and no part of his life was spent to better purpose than that which was devoted to developing the chemistry of food. He made the nature of the animal tissues and the liquid compounds of the human body, the subject of laborious investigation. He traced, with the utmost care, the passage of their elements into one another, and the application of his discoveries to the preparation of food so as to preserve all its nutritive properties, resulted ultimately in the preparation of that extract of beef, which more than anything else, perhaps, has made the name of the great German professor a familiar one in every American home. Yet his favorite object of investigation was always that of fermentation, and whether the theory as to its cause—molecular transition—which he so stoutly advocated, or the germ theory of Pasteur, which he as stoutly combatted, be accepted as the true explanation of the phenomenon, there is no difference of opinion as to the value of his labors in this direction. Here, again, his earnest desire to make his discoveries of practical use to humanity asserted itself.

His extract of malt was suggested by the discovery that the active principle of malt which converts the starch in the grain into sugar, and is chemically known as "diastase," was identical with that exerted by the digestive juices of man,—the secretions of the salivary glands and the pancreas,—and would answer the purpose of an artificial aid to digestion.

Baron Liebig lived to see the beenficent results of his labors, for his extract soon became famous the world over, as an infallible remedy for indigestion, debility and many of the evils which follow in their train. It received the highest endorsement of the medical faculty on both sides of the Atlantic, and the cures which it has effected, as well as the cases in which it has afforded substantial relief, could be cited by the thousands. Free from every suspicion of quackery, it has been everywhere accepted as a remedy of self-evident value, and the most eminent practitioners have not hesitated to prescribe it for their patients, in place of the usual drugs. Indeed, in all cases where there is a debilitated system to be built up, no medicine can supply its place.

Nursing Mothers, who suffer from dragging, languor and poverty of milk, will find the Liebig extract of malt an invaluable specific for their ailments. It stimulates the digestion, invigorates the appetite, strengthens and builds up the entire system, and excites a generous flow of milk. The testimony of those who have used it, is emphatic on this point, and physicians generally pronounce it a most excellent ally in all such cases. It not only possesses nutritive properties itself of the highest order, but, by the reason of the aid which it renders the digestive organs in performing their functions, it helps to extract the utmost nourishment possible from ordinary foods.

It has the merit also of being agreeable to the taste, and unlike cod-liver oil, and other familiar restoratives, it is not repugnant to the stomach. Indeed, it is more of a food than a medicine, and resembles the former in its effects, repairing the waste of the system by natural processes, and at a steady rate of progress, rather than by any violent or sudden action of any kind. It is, indeed, specially calculated to sustain the mother during the period of nursing when the strain upon her energies is proverbially severe, and, as a necessary consequence, to promote the health and vigor of the child.

Weak and Sickly Children, are invariably greatly strengthened by a course of malt extract. The lassitude and weariness, which are common signs of insufficient nourishment and general debility, disappear after a few days, the digestive organs resume their usual functions and a very perceptible change takes place in the appearance as well as the actual condition of the child. The extract not only restores health, but flesh, and children who have become thin and emaciated, either through disease, the lack of proper nutrition, or undue mental or nervous exertion, soon recover their round and rosy cheeks.

In this age of advanced school training, the mental strain upon children of both sexes is frequently more than their physical energies can endure, and a steady increase of nervous disorders is the natural consequence. Sometimes the physician is unable to discover any specific disease, although the loss of strength, the tendency to languor and the disinclination to indulge in any active exercise are sure indications of an abnormal physical condition. In such cases the Liebig extract of malt is sure to prove an invaluable aid to the recuperative powers of Nature, restoring the appetite, promoting digestion, and infusing fresh vigor into the system. An experience of many years, during which the Extract has been subject to the most rigorous tests, leaves no room for doubt as to its efficacy as a dietetic and tonic. It is, moreover, a pleasant and palatable preparation, and no persuasion is required to induce children to take it. It is not necessary, as in the case of cod-liver oil, to frighten them into obedience.

There is no natural aversion to be overcome, and consequently no difficulty is experienced in enforcing a thorough course of treatment. In the great majority of cases, as has been pointed out, what weak and sickly children need, is some simple restorative. When the system runs down, the sensible thing to do is to wind it up, and the extract of malt is the magic key that will set the works in motion again.

Invalids and Convalescents, will find the Liebig extract of malt admirably adapted to supporting life, and coaxing back the appetite. When the stomach is weak and refuses ordinary food, the extract will restore its tone. Unlike many otherwise excellent restoratives, it is not open to the objection that it is unpleasant to the taste. On the contrary, it is very agreeable to the palate and can be retained on the stomach when both food and medicine are repugnant to it. Containing as it does, so much actual nourishment, it is peculiarly well adapted to satisfying the wants of the invalid. It is at once a food and a stimulant; capable of supporting life itself, or of restoring the power of the system to assimulate the most substantial food, and whether the invalid be suffering from an incurable disease or not, its effect cannot fail to be salutary and beneficial.

Death, as everybody knows, more frequently results from exhaustion of the system, consequent upon the inability of the vital organs to supply it with sufficient nourishment, than from the direct attacks of disease, and the question with the physician often is, how to keep life in his patient until the crisis of the sickness is past. In such emergencies the extract of malt will be found of great practical value on account of its strengthening properties. And what is true in the case of those who are in a state of prostration is necessarily true of convalescents, and to a greater extent, for with the latter, it is not simply a question of sustaining life, but of restoring the system to its normal condition :—of infusing fresh vigor into every weak organ, and helping it to perform its function properly. It is not to be expected, of course, in the case of convalescents, that it should take the place of regular food, except during the time when they may be too weak to take anything else, and it is one of its chief recommendations that it does not pall upon the appetite nor produce a distaste for food. Indeed, the Liebig extract of malt is now admitted by all experienced nurses and physicians to be almost indispensable to the sick-room.

Delicate Females who suffer from the weaknesses of their sex, will find the Liebig extract of malt peculiarly well adapted to their needs. Eminent physicians who have made a specialty of the diseases of women, pronounce it of the highest value in their treatment. A weak condition of the system, resulting from uterine troubles, requires just such a nutritive agent as malt extract, and its recuperative powers, in such cases, can scarcely be over-estimated. The simpler the restorative, the better—provided it possesses the properties of a true tonic.

In many instances, if not in the majority, female weakness is superinduced by the low state of the sufferer's general health, and the only treatment needed is that which is calculated to strengthen the digestive powers, purify the blood and stimulate the appetite. It is in such cases that the Liebig extract of malt works the most wonderful transformations, for its faithful use will speedily bring strength to the invalid, and revive the spirits of the despondent.

To tax the system, whenever it becomes a little disordered, with potent drugs, is worse than folly, for so long as their influence continues, it is impossible to produced any reaction in the organs of nourishment, and the prostration of the energies is likely to become more and more general. Nine times out of ten, what the system requires is really a simple dietetic and tonic, such as the Liebig extract of malt, which possesses stimulative as well as nutritive qualities, and, at the same time, is free from all injurious properties. Indeed, this preparation has invariably proved of the greatest comfort to delicate females, and has restored thousands to health and happiness when the ordinary drugs and medicines had entirely failed to accomplish that result.

Weak and Delicate Persons Generally will find the use of Liebig extract of malt highly beneficial. There are thousands of people, who, at times, either through the effect of over-work, or unusual exposure to the weather, become debilitated, without being actually sick and confined to the house, and need some artificial restorative to assist Nature in building up the system. Persons of naturally weak constitution, and especially those who are inclined to consumption, will derive material comfort from this preparation. It is not intended of course, as a cure for consumption; but physicians agree that it possesses the highest value as a recuperative agent, and even in the last stages of the disease can be employed to advantage.

The best medical testimony has been voluntarily offered as to its beneficient effect upon the respiratory organs, and if taken regularly for a reasonable period, it will be found to be a specific for cough and all nervous affections produced by a low state of the system. Professional men, who are subject, at times, to abnormal mental strain, and compelled to perform excessive mental labor, will find, in the Liebig extract of Malt, just the tonic they require to replenish the reservoirs of force, lighten the spirits, and invigorate the nervous energies. Many a man falls a victim to melancholia without suspecting that the real trouble is a faulty digestion, and that such a simple dietetic as malt extract, will restore his health and courage at the same time. After all, the simplest remedies are the surest. Nature is her own physician, and often the best that Science can do is to follow humbly in her footsteps and lend a helping hand when she calls for aid.

As a Flesh Restorer the Liebig extract of malt may also lay claim to be an effective specific. As everybody knows, starchy foods, such as bread, rice, and potatoes, are the great "fat-producers;" but the starch which they contain must be converted into sugar by the action of the digestive juices, before it can be absorbed by the system, and consequently, when the digestion is faulty, the nourishment is not properly extracted from the food, and the invalid loses flesh. The active principles of malt extract is the same as that of the digestive juices and it has the same power of converting starch into sugar, and therefore when the natural means of digestion fail it can be used as an effective substitute. Nor is its efficacy limited to cases of emaciation produced by disease. Those who are naturally thin and lank of figure, may often overcome these defects by the constant use of the extract in the prescribed doses, and at the stated periods. The whole tendency of its action on the human system, is to stimulate the digestion of fat-producing foods, and the experience of thousands show that it is a genuine flesh-restorer. The rounded beauty of the female form, not less than the robust manliness of the masculine frame, testifies to its happy influence. "Laugh and grow fat," is an old adage: a surer way is to take the Liebig extract of malt.

A Remedy for Insomnia.—Insomnia or sleeplessness, is one of the most distressing as well as frequent accompaniments of nervous prostration, and although the drugs of the apothecary may afford temporary relief, a permanent cure can only be effected by removing the cause of the trouble through the use of some simple yet efficient tonic, which will counteract the evils resulting from defective nutrition, and at the same time restore the vital energies. Such a restorative is supplied by the Liebig malt extract which possesses the most nourishing as well as stimulating properties, and not only imparts strength directly to the system, but enables it, by restoring the digestive organs to their normal condition, to draw from ordinary food an increased supply of nourishment. When one considers the tortures to which insomnia subjects its victim—the mental strain, the bodily weariness, and the nervous exhaustion—too high a value cannot be set upon this remedy. Experience proves that it has enabled thousands to enjoy a natural and refreshing sleep, when but for it they would have been forced to pass many a wakeful night, and suffer, perhaps, the most exquisite agony. It is advisable to take a glass of Extract every evening before retiring.

What it Is.—The Liebig malt extract is a concentrated fluid extract of malt, agreeable to the taste and entirely free from alcohol. It is readily retained on the stomach, when other restoratives, such as cod-liver oil, are promptly rejected, and it contains none but wholesome and nourishing ingredients.

The great chemist who embodied in this remedy for human ills the practical results of his scientific researches, took care that it should not fall short of perfection. Other preparations, it is true, purporting to be genuine malt extract, but partaking more of the nature of "Brown Stout," and containing a considerable percentage of alcohol, have been foisted upon the public since Liebig's day; but the genuine article is easily distinguished by the fine engraving of its famous discoverer, which ornaments the label of each bottle, together with the accompanying *fac simile* of his signature.

Where You Can Get It.—Liebig malt extract is sold by all druggists and dealers in medicine at *fifty cents* a bottle, or *five dollars* per case of one dozen bottles. If, however, the druggist or dealer should not have the remedy in stock, insist upon his ordering it from the wholesale dealers from whom he draws his supplies.

Directions.—For adults, the ordinary dose is a wine-glassful, taken three times a day.

For children, it varies from a teaspoonful to a tablespoonful, three times a day, according to age. No harm can result from an overdose, under any circumstances; but the best effects will be realized from the tonic when taken as above directed.

For summer use.—During the hot weather, the Liebig malt extract will be found a most delicious refreshment. It should be poured into a glass partially filled with crushed ice, and sugar added, or not, according to taste. Taken in this way, it has a most salutary cooling effect and answers all the purposes of a palatable summer beverage as well as an invigorating tonic.

ACADEMY OF MEDICINE.—Next Monday, 22d inst., Dr. Conner will present to the Academy a report on the "Treatment of Compound Fractures with Plaster of Paris." Dr. Ransohoff and Dr. Cassat will each report a case of "Abscess of the Liver," the former with "Hepatotomy."

AMOLE—A PLANT THAT YIELDS SOAP.—These cacti grow on the American continent from Mt. Shasta on the north to a similar latitude in South America, and from the Pacific coast to east of the Rio Grande, through New Mexico and Western Texas. The flower stalks are destitute of leaves, but are plentifully supplied with branches about eighteen inches long, from which flowers of white and yellow colors are suspended in the flowering season. The bulbous root is from one to six inches in diameter and from six to eighteen inches long. A saponaceous juice is expressed from the root and the fiber of the leaves is heckled for the manufacture of mattresses, cushions, and chair seats. The vegetable soap extracted from the root has been used by the Indians, Mexicans, and others for many years as a hair wash, and exceeds in purity our manufacture from animal substances. The preservative qualities of the soap are well known and its use gives the hair a fine natural glow, preventing decay of the hair and entirely eradicating dandruff or other impurities on the scalp. Cattle eat the leaves in the spring as a purgative. And when cut into bits and thrown on water where fish abound, the effect is stupefaction of the fish, when they can be easily taken. The price among the Indians and Mexicans, who sell it in Tucson, is five cents for a bunch of two stalks interlaced (mancuerna). For cleaning flannels the amole is found vastly superior. It may be hoped that the manufacture and preparation of amole may become one of the industrial pursuits of the age.—*Tucson Citizen.*

CAUSE OF DARK COMPLEXION OF CHICAGO LADIES.—A private letter from a valued correspondent contains the following which is too good to be lost. He writes:

"I see Dr. Byford has greatly improved his work on 'Diseases of Women.' In the first edition 'nitrate of silver and its substitutes' played a very important part. When I lived in——, a lady friend visited Chicago and spent the summer there. On her return, I met her in company of several ladies, who brought up the subject of complexion. The lady was asked if she had noticed the well-known fact that Chicago ladies were less fair than their Eastern sisters, and that eastern ladies who went to Chicago soon lost their complexion, and if she thought the climate was the cause? The lady replied that she had noticed the fact and thought the climate might have something to do with it, but she had given the subject considerable attention, and had concluded that the reason in part was due to the fact that Dr. Byford treated female diseases exclusively with nitrate of silver. I judge, therefore, from his last edition, that the complexion of Chicago ladies will now improve. * * —*Peoria Medical Monthly.*

A NEW SIGN OF STERILITY.—A Chicago professor stated in a lecture that he had noticed that in sterile women the hair on the Mons Veneris was always straight. The professor was rather surprised by the inquiry of a student, whether curling of the hair would cure sterility? *Fact.* —*Peoria Medical Monthly.*

THE MIDELEMORE PRIZE IN OPHTHALMOLOGY.—We are requested to remind intending competitors for this prize that all essays must be forwarded by the 31st of May next, under cover, with a sealed envelope bearing the motto of the essay, and containing the name and address of the author, addressed to the General Secretary of the British Medical Association, 261A. Strand, London. The amount of the prize is £50; and the subject of essay is "The Scientific and Practical Value of Improvements in Ophthalmological Medicine and Surgery made or published in the past three years."—*British Medical Journal.*

A MALPRACTICE suit in Belgium brought against a physician for the alleged improper prescription of morphia, resulted in an acquittal not only, but the plaintiff was adjudged to pay the defendant one thousand francs damages. It is reported that the action was instigated by a rival doctor.—*King's Co. Proceedings.*

HOW LAWYERS ARE SOMETIMES MADE.—Prichard refers to the case of three congenitally idiotic brothers, one of whom received a blow on the head which brightened him up a little, and he afterward became a barrister. His less fortunate brothers died idiotic.—*Alienist and Neurologist.*

LOUISVILLE KY., April 24, 1882.

CELERINA—In March last was called to see Mrs. S. Found her suffering from a severe headache, was exceedingly nervous, and much depressed in spirits. She had recently been divorced from her husband, and had gone to work in a publishing house. This change in her domestic relations produced great nervous excitement; correspond-depression followed, and her condition was truly deplorable. She had temperature of 102, rapid pulse, severe headache and backache, metrorrhagia, leucorrhœa, loss of appetite, and constipated bowels.

On two previous occasions she had been treated for uterine disease. The indications were plainly to restore the general health and tone of the nervous system before resorting to treatment for any local trouble. A mercurial purge, small doses of ergot, and injections of hot water to uterus were ordered. Thinking this a favorable opportunity to exhibit the new nerve remedy, CELERINA, accordingly, on the following visit it was prescribed. Within a week my patient was able to resume her work "as well as she had been since her marriage." I am convinced a great proportion of this happy result was due to the CELERINA. I was much pleased with its action, and deem it a remedy well worth the careful consideration of the profession. JOHN G. CECIL M. D.

Clinical Professor of Gynæcology in the Hospital College of Medicine, Louisville, Ky.

STRABISMUS OPERATION. — What most men know, what few say, * * * that the strabismus operation ought rather to be regarded as a *look cure* than a *sight cure.*

This is the view taken by Stellwag, when he says: The brilliant result of the operation for strabismus in many cases is not to be regarded so much in the light of a true cure, as a concealing, a masking, of the deformity.—*Abhandlung aus dem Gebiete der practischen Augenheilkunde,* Stellway von Carion, Wedl and Hempel.

Bibliography.

THE SYMPATHETIC DISEASES OF THE EYE.[1]

This volume of the Mauthner series appeared in 1878.

The narration of the causes, the sorts of sympathetic inflammations, are clearly and concisely put in this volume, and hence it is to be recommended. So far as the ætiology goes it has nothing new to contribute, for we cannot sympathize with the author's serenity when he says:

"Dark and complicated, therefore, as must seem the possible way in which inflammatory processes are transmitted along the *ciliary nerves,* the matter is relatively simple in the case of the *optic nerves,* for in the latter we have only to picture the transmission of an inflammation from nerve to nerve. Under such circumstances as these, the inflammation of the optic nerve, in the injured eye, is anatomically proved—in the eye affected sympathetically. It is directly proved with the ophthalmoscope; so that here, with the union of the optic nerves at the chiasm, we may calmly assume that we have to do with a connected or disconnected neuritis, passing from one nerve to the other through the chiasma."

Mackenzie sat serene on the sella turcica before the author was born, but the seat was almost totally abandoned by others for long years, till the author mounted it again. The readers of the LANCET AND CLINIC are familiar with the only thing new on this entire subject, the views of Professor Leber, who rather regards the "sympathy" as an *infection,* and the lymph channels found along with the optic nerves as the pathway along which the organisms travel.

The volume is valuable if the reader will omit the theorizing as to how the sympathy travels from one eye to the other and its nature. W.W.S.

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[1] By Ludwig Mauthner, M.D., Royal Professor in the University of Vienna. Translated from the German, by Warren Webster, M.D., Surgeon, United States Army, and James A. Spaulding, M.D., Member of the Am. Ophthal. Soc.; Ophthal. Surgeon to the Marine General Hospital. New York; Wm. Wood and Company, 1881. Price $2.00.

Original Communications.

REFRACTION OF THE EYE, AS DISTINGUISHED FROM ACCOMMODATION AND ESTIMATED AS AN EQUIVALENT, FROM THE INDEX OF REFRACTION.

By H. Culbertson, M.D.,
Assistant Surgeon U. S. Army, Retired.

The distinction between the *refraction* of the eye in a state of activity from the force of the ciliary muscle, and *that* observed while this organ is at rest, has been drawn by Donders and other authorities. The object of this paper is to estimate this difference, as an equivalent, by the index of refraction.

All know that one of the essentials to perfect vision is the presence of refraction, both in active and passive sight; but how much refraction is due to the passive (from simple *capacity*) condition, and what proportion to the active state of the ciliary muscle, is a subject as important as it is interesting. The purpose is to treat this *capacity* and this *force* as distinct factors in vision.

For refraction in a state of *rest* the symbol Re will be employed, in order to distinguish it from small "r", or "punctum remotum", or infinity, or ∞.

For that refraction which is the result of the action of the ciliary muscle applied upon the crystalline lens, the symbol C will be used, meaning Len-cil-tasis; from Lentis, lens; cilia, hairs, (the ciliary muscle being named from its ciliated feature), and tasis, tension: By which is understood the force of the ciliary muscle applied upon the lens in vision. The symbols denoting "*accommodation*" "A", and "*astigmatism*" "A", are thus avoided, as well as the confusion from their use.

The hypothesis is that visual power—V P, or $V = Re + C$; and hence $Re = V\,P - C$; or $C = V\,P - Re$.

The influence of Re is due to refraction of the humors, the lens and cornea when the eye is at rest. Through Re parallel rays of light, or those from infinity, and incident upon the cornea are brought to a focus upon the layer of rods and cones of the retina. Practically, five metres, or 500 centimetres (cm.), or 5000 millimetres, (mm.), or 200″ inches (″) will be the equivalent for infinity, (∞). The metrical system and the English inch will be employed in the calculations.

By the metrical system is understood a *unit* of linear measure of one (1) metre, which is equal to 100 centimetres (cm.) or 1000 millimetres (mm.) or 40″ english inches, (″). This unit is divided into 20 parts each of which is a "dioptry" or "dioptric"; symbol D. Thus:

D 1.0, = 1 metre, or 100 cm. or 40″ inches;
D 2.0, = $\frac{1}{2}$ " " 50 " " 20″ "
D 3.0, = $\frac{1}{3}$ " " $33\frac{1}{3}$ " " $13\frac{1}{3}$″ "
D 4.0, = $\frac{1}{4}$ " " 25 " " 10″ "
D 5.0, = $\frac{1}{5}$ " " 20 " " 8″ "
D 6.0, = $\frac{1}{6}$ " " $16\frac{2}{3}$ " " $6\frac{2}{3}$″ "
D 7.0, = $\frac{1}{7}$ " " $14\frac{2}{7}$ " " $5\frac{5}{7}$″ "
D 8.0, = $\frac{1}{8}$ " " $12\frac{1}{2}$ " " 5″ "
D 9.0, = $\frac{1}{9}$ " " $11\frac{1}{9}$ " " $4\frac{4}{9}$″ "
D 10.0, = $\frac{1}{10}$ " " 10 " " 4″ "
D 11.0, = $\frac{1}{11}$ " " $9\frac{1}{11}$ " " $3\frac{7}{11}$″ "
D 12.0, = $\frac{1}{12}$ " " $8\frac{1}{3}$ " " $3\frac{1}{3}$″ "
D 13.0, = $\frac{1}{13}$ " " $7\frac{9}{13}$ " " $3\frac{1}{13}$″ "
D 14.0, = $\frac{1}{14}$ " " $7\frac{1}{7}$ " " $2\frac{6}{7}$″ "
D 15.0, = $\frac{1}{15}$ " " $6\frac{2}{3}$ " " $2\frac{2}{3}$″ "
D 16.0, = $\frac{1}{16}$ " " $6\frac{1}{4}$ " " $2\frac{1}{2}$″ "
D 18.0, = $\frac{1}{18}$ " " $5\frac{5}{9}$ " " $2\frac{2}{9}$″ "
D 20.0, = $\frac{1}{20}$ " " 5 " " 2″ "
D 0.75, = $1\frac{1}{3}$ " " 133 " " $53\frac{1}{3}$″ "
D 0.5, = 2 " " 200 " " 80″ "
D 0.25, = 4 " " 400 " " 160″ "
D 0.00, = 5 " " 500 " " 200″ "

Dioptrics are converted into English inches, by dividing one (1) metre or 40″ inches, by the number of the dioptry. Thus $D = 2.0 = \frac{40''}{D\,2} =$ 20″ inches.

With a metrical measure the ametropia is readily estimated. Thus if the focal distance of the glass required is 50 cm., then as $2\frac{1}{2}$ cm. is equal to one English inch $\frac{50\text{ cm.}}{2.5''} = 20''$ inches.

The focal distance can also be determined by dividing 100 cm. or 1 metre, by the number of cm. found denoting the focal distance of the glass required, which will convert the cm. into dioptrics, and if 40″ or one (1) metre be divided by the number of dioptrics found, the quotient will be the focal distance of the glass required in English inches. This system has its advantages and is adopted by many ophthalmologists.

Forty inches is however a fraction more than one (1) metre, the latter being 39.371+ English inches. Practically the former quantity is regarded as accurate.

These explanations seem necessary for the general medical reader, as are the following illustrations important in relation to this subject.

Fig. 1, represents Helmholtz diagrammatic eye; Fig. 2, the posterior focus for rays of light parallel in the air, and Fig. 3, the anterior focus for rays parallel in the vitreous humor.

FIG. 1.

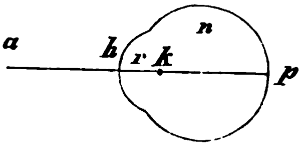


FIG. 2.

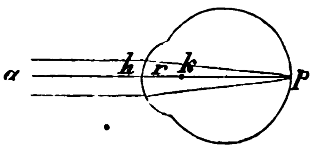
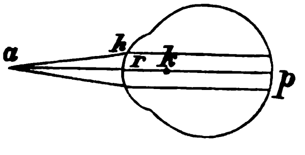


FIG. 3.



Let "a", Fig. 1, be the *anterior* focal point; "p", the *posterior* focal point; "h", the *principal* point; "a h" = F′, the anterior *focal distance* of the eye = 15.4983 mm.; " h p" = F″, the posterior focal distance = 20.7135 mm.; "n" the index of refraction of the eye = 1.3365 +; "k" the nodal point; "h k" = "r" the radius of curvature of the cornea = 5.2152 mm., of the diagrammatic eye.

These are the measurements of Heyl, who is supported in his estimates by Stammehaus and Reich (see p. 91, vol. viii, Arch. Ophth).

It is evident that rays of light emanating from an infinite distance, or from 5000 mm. from "k" Fig. 1, will be parallel to the axis "a p", and be brought to a focus at "p"; and as the index of refraction for the eye is 1.3365, such a degree of refraction is sufficient to induce the focus at "p", of rays from 5000 mm. distance; it follows that a co-efficient of refraction of 1.3365 is equivalent to 5000 mm. As this is the result altogether of refraction, or Re, it ensues that 5000 mm. is equal to Re.

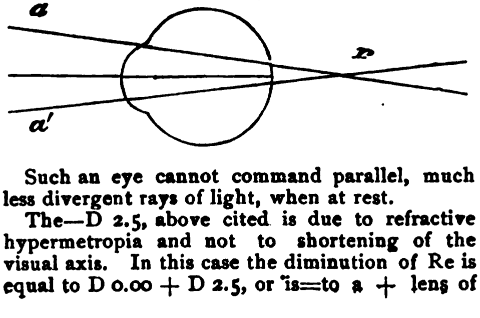
In vision of objects 5000 mm. from "k," the ciliary muscle is at rest, and hence Re unaided is sufficient to focus parallel rays at "k." But within this distance C begins to act. The 5000 mm. is equal to dioptrics 0.00. Hence C at 5000 mm. is = D 0.00, or at that distance there is no C exercised in the emmetropic eye.

The following results:

Proposition 1st, Em Re = D. 0.00 = 1.3365.
Proposition 2d, Em C = D. 0.00 = 0.000.

Re remains D 0.00 up to fifty years, when it begins to decline, until at eighty years, it is reduced = D 2.5 (negative). That is the far point is no longer at D 0.00 (200″) in front of "k," but lies theoretically—D 2.5, or 16″ posterior to that point (k). The posterior focal distance for rays *convergent* in front of the cornea is located at the point where such rays decussate posteriorly, and is the "*punctum proximum*" in the case. This is illustrated by Fig. 4, in which a a′ represent converging rays of light, "a" prolonged in "r," and a′ in "r," at which point "r" is "p," the "*punctum proximum*."

FIG. 4.



Such an eye cannot command parallel, much less divergent rays of light, when at rest.

The—D 2.5, above cited is due to refractive hypermetropia and not to shortening of the visual axis. In this case the diminution of Re is equal to D 0.00 + D 2.5, or is=to a + lens of 16″ focal distance (D 2.5 = 16″). What is = —D 2.5 in terms of refraction? This may estimated, as for axial hypermetropia and in t same manner as if the visual axis were shortene

The formula deduced from Schwigger (Hand book of Ophthalmology, p. 103) will be em ployed: viz.: $\frac{1}{F} = \frac{1}{F_{u}} + \frac{1}{no}$; in which $\frac{1}{F}$ = th conjugate focal distance sought; $\frac{1}{F_{u}}$ = the po terior focal distance of the diagrammatic eye = 20.7135 mm.; n = the index of refraction of th emmetropic eye = 1.3365; and o = the dis tance of the object from the nodal point, k or, in this case, 400—5.2152 = 394.7848 mm from p. (Fig. 1). Substituting $\frac{1}{F} = \frac{1}{20.7135} + \frac{1}{394.7848 \times 1.3365}$ = 19.9310 mm., which is the pos terior focal distance of such an eye. The inde of refraction in the case will be $\frac{19.9310}{15.4983}$ = 1.2860. Then Re = — D 2.5 is equal to 1.2860. At fifty years of age the index of refraction, the Re, *of the* eye is 1.3365, while at eighty years, it has diminished to 1.2860, a reduction of Re = 1.3365 — 1.2860 = 0.0505, hence the following:

Proposition 3, H. R. = — D 2.5 = 1.2860.
Proposition 4, In H. = — D 2.5, Re is defective 0.0505.

AXIAL HYPERMETROPIA.

In this form of H, the ametropia is due to shortening of the visual axis of the eye. The relation between the axis and Re is destroyed, *and* both are diminished. Hence the degree of H may be estimated from the shortening of this axis, and the curtailed visual axis will be the *posterior* focal distance.

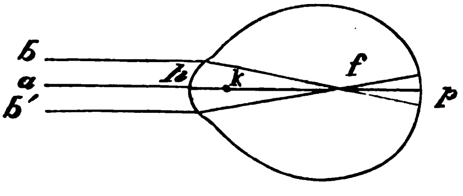
The formula employed in the calculation, will be that above given, viz: $\frac{1}{F} = \frac{1}{F_{u}} + \frac{1}{no}$, and the problem is, what is the Re in a H = D 20.0, or in a H of ½? Here let $\frac{1}{F}$ = the conjugate *focus* sought; $\frac{1}{F_{u}}$, = the posterior focal distance of the emmetropic eye = 20.7135 mm.; n. = the index of refraction = 1.3365, o, = the distance of the object from "k," (Fig. 1) or from "h," = 50 — 5,2152=44.7848 mm. substituting, $\frac{1}{F} = \frac{1}{20.7135} + \frac{1}{44.7848 \times 1.3365}$ = 15.3882 mm., the posterior focal distance in the case. The index of refraction = $\frac{15.3882}{15.4983}$ = 0.9928; which is a reduction of Re = 1.3365 — 0.9928 = 0.3437; Hence,

Proposition 5, H. Re = D 20.0 = 0.9928.
Proposition 6, In H. = D 20.0, Re is defective, 0.3437.

AXIAL MYOPIA.

In this form of ametropia the visual axis is increased and the retina, now receded from the emmetropic position, 20.7135 mm. from "h," (Fig. 5), the rays of light decussate at f (Fig. 5), and are spread upon the retina, at "p" in circles of diffusion. This may be better understood by reference to Fig. 5, in which b b′, represent parallel rays of light incident upon the cornea. From the **RELATIVE** *excess* of the refraction of such an eye, the rays b b′ are brought to a focus at "f" and pass posteriorly to the retina at "p",

FIG. 5.



The ametropia is here determined by estimating the posterior focal distance or the length of the visual axis. The formula employed will be that given by Schwigger (Handbook Ophth., p. 103), viz: $\frac{1}{F} = \frac{1}{F_u} - \frac{1}{no}$, in which $\frac{1}{F}$ = the length of the visual axis desired; $\frac{1}{F_u}$, = the posterior focal distance of the diagrammatic eye = 20.7135 mm.; "n", the index of refraction = 1.3365; and "o" the distance of the object from k — (h. k.) = 50 — 5.2152 = 44.7848 mm. Substituting, $\frac{1}{F} = \frac{1}{20.7135} - \frac{1}{44.7848 x 1.3365}$ = 31.6750 mm. which is the posterior focal distance for 20 D. The index of Re will be found by dividing the posterior focal distance found, by the normal anterior focal distance, or $\frac{31.6750}{15.4983} = 2.0437$.

The excess of Re in this case is = 2.0437 — 1.3365 = 0.7072: hence

Proposition 7, M. Re = D 20.0 = 2.0437.

Proposition 8, In M. = D 20.0, Re is in excess, 0,7072.

Thus far the eye has been considered in a state of rest. It remains to estimate what is the equivalent in refraction, denoting the force of the ciliary muscle in the range of vision, or what is the Lenciltasis or C.

Since it was found that C begins within 5000 mm. from "k" (Fig. 1) the range of Lenciltasis extends from that point (5000 mm.) towards the eye, and experiment and observation have shown that the average near point is about 70 mm. from "h", (Fig. 1) or 7 cm. or 2.8″. The range of Lenciltasis (C) is equal to D 14.0 — D 0.0 = D 14.0. What is the index of refraction equivalent to D 14.0? One of the steps necessary in determining this is to estimate the range of Lenciltasis C, by the well-known formula of Donders, viz: $\frac{1}{C} = \frac{1}{P} - \frac{1}{r}$, "p" and "r" being calculated from the nodal point, "k", 7 mm. behind "h", as determined by that authority, (see p. 79, Anom., Acc. and Refrac.) for the *reduced* diagrammatic eye. Then "p" = D 14.0 or 70 + 7=77 mm., and "r" = 5000 + 7 = 50007 mm. Substituting $\frac{1}{C} = \frac{1}{77}, - \frac{1}{5007} = \frac{4930}{385539}$ = the range of C. As Donders estimates the refraction induced by the increased curvature of the crystalline lens, or C, at ninth-tenths ($\frac{9}{10}$), the last quantity found should be × 0,9, which will give the focal distance of the auxiliary lens required in the case. Then $\frac{4930}{385539} \times \frac{9}{10} = \frac{1}{84.6}$, or a + lens of 84.6 mm. about 3.3″ inches principal focal distance. What is the equivalent of this lens in refraction, or in C? In estimating this it must be remembered that an object situated at 84.6 mm. from the cornea would subtend divergent rays of light, which would focus behind the retina did not the lens become more convex through C and cast the focus upon the retina in its normal position. It is evident that this theoretical negative position of the focal point behind the retina (which would be the posterior focal point were Re alone exercised and C not employed) bears the same relation to the position of the normal retina, as does the position of the normal retina to the shortened visual axis, or the advancement of the posterior focal point, in axial hypermetropia. Hence the formula for determining the shortening of the visual axis in H, will give the solution in this case, viz: $\frac{1}{F} = \frac{1}{F_u} + \frac{1}{no}$, in which $\frac{1}{F}$ = the posterior focal distance sought; $\frac{1}{F_u}$ = posterior focal distance of the diagrammatic eye = 20.7135 mm.; "n", = the index of refraction of the normal eye = 1.3365 and and "o", the distance of the object k — (h k) (Fig. 1) = 84.6 — 5.2152 = 79.3848 mm. Substituting, $\frac{1}{F} = \frac{1}{20.7135} + \frac{1}{79.3848 x 1.3365}$ = 17.3301 mm., which would be the posterior focal distance for parallel rays for the hypermetropic eye. This quantity divided by the anterior focal distance, will give the index of refraction equivalent to the auxiliary + lens of 84.6 mm. focal distance, viz: $\frac{17.3301}{15.4983}$ = 1.1181, which is equivalent, as an index, to the *ciliary-muscle-force*, the C, exercised when the object is situated at 84.6 mm. from k (Fig. 1).

Visual power will equal the Em Re + this quantity, or 1.3365 + 1.1181 = 2.4546, for Re + C = D 14.0; hence

Proposition 9, Em C. = D 14.0 = 1.1181.

Proposition 10, Em C. + Re = 14.0 = 2.4546.

HYPERMETROPIC LENCILTASIS.

What is the C, in a hypermetropia = D 20.0?

In this case the near point would be, were it possible, 50. mm., behind the nodal point k. The punctum remotum .r, lies still further back of the eye. It has been seen that the index of refraction for a hypermetropia = 20.0 D, is 0.9928, and that in this degree of H, there is a defect of Re = 0.3437. The total Em C = 1.1181. Hence in a H = D 20.0, the C + Re, or 1.1181 + 0.9928 = 2.1109. This defect, 0.3437, is, 0.3437 more C than the ciliary muscle can ex-exercise. But to compensate for this defect the ciliary muscle must exercise a force = 1.1181 + .3437, = 1.4618, which is 0.3437 more C than it is capable of exercising. The V P is defective because Re is reduced to 0.9928 index, hence:

Proposition 11, H C = D 20.0 = 1.1181.

Proposition 12, H C + Re = 20.0 D. = 2.1109.

Proposition 13, In H = D 20.0, V P is defective in Re = 0.3437.

MYOPIC LENCILTASIS.

What is the equivalent of C in a myopia = D 20.0, the near point being 50 mm. from the nodal point k? It was found that in a myopia of this degree that Re was equivalent to 2.0437, and Em C, to 1.1181. Re is in excess in the case = 2.0437 —1.1181 = 0.9256. As the 2.0437, includes the 1.3365 of emmetropic Re when the eye is at rest, then if the near point be at 50 mm, from k, the sum of Re + C will equal 2.0437 +

1.1181 = 3.1618, if C be all exercised in a M = D 20.0. Em Re + C being equal to 2.4546, it results in a myopia of this degree, that there is an excess of Re + C = 3.1618 — 2.4546 = 0.7072. As this quantity cannot be taken from the Re, it must be deducted from the C in the case, or 1.1181 — 0.7072 = 0.4109 C employed in the case, Hence:

Proposition 14, M C = D 20.0 = 0.4109.

Proposition 15, M C + Re = D 20.0 = 3.1618.

Proposition 16, In M = D 20.0, C is in excess, 0.7072.

Proposition 17, M Re = D 20.0 = 2.0437.

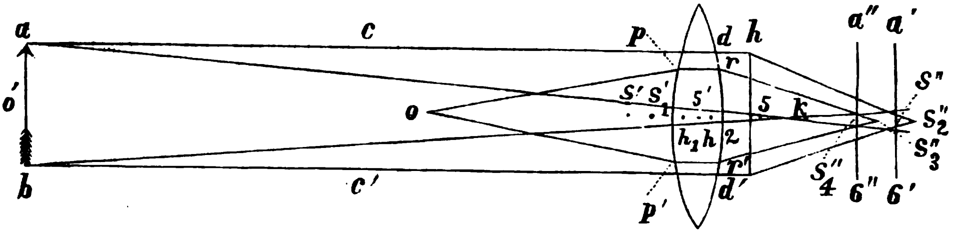
CONCLUSIONS.

1st	Em Re = D 20.0 =	1.3365
2d	Em C = D 20.0 =	1.1181
3d	Em Re + C = D 20.0	2.4546
4th	H Re = D 2.5 =	1.2860
5th	H Re = D 20.0 =	0.9928
6th	H C = D 20.0 =	1.1181
7th	H C + Re = D 20.0 =	2.1109
8th	M C = D 20.0 =	0.4109
9th	M Re = D 20.0 =	2.0437
10th	M Re + C = D 20.0 =	3.1618

The appended table expresses the several degrees of hypermetropia and myopia, the anterior and posterior focal distances and the corresponding indices of refraction for the several grades of ametropia, as calculated from the above formula.

An example illustrating the practical application of this method will be given, viz: the determination of the proper test types, estimated by Stammehaus and Heyl constants, as well as to decide the position and influence of the correcting lens in a case of hypermetropia = 20 dioptrics. Fig. 6 is necessary.

FIG. 6—LENS.



The *test types* of Snellen, estimated by the measurements given by Donders for the diagrammatic eye, for 5000 mm. from k are, 7,3359 mm. in height. The height of the image at S'' is .0218 mm. in this calculation.

With the measurements as given by Heyl the types for the same distance are smaller; being 7.0330 mm. or 7.3359 — 7.0330 = .3029 mm. less, which is a difference too great to be ignored.

These results are produced from the formula, viz: k S'' : S'' : : k 6 : a b, (see fig. 6) substituting Heyl's constants, 15.4983 : .0218 : : 5000 : 7.0330 : or with Donders' constants 14.8583 : .0218 : : 5000 : 7.3359 mm.

In considering the case of hypermetropia of 20 dioptrics, the following is assumed:

See fig. 6, h k, from cornea to nodal point = 5.2152 mm;

h S'' cornea to retina = 20.7135 mm.

h S' cornea to anterior focal point = 15.4983 mm.

h S'_1 cornea to anterior locus = 13.7451 mm.

h S''_2 cornea to posterior locus = 22.8236 mm.

h S''_4 posterior axis for an eye with 20 dioptrics of hypermetropia = 15.3882 mm.

The + correcting lens of 50 mm. focal distance from "5'". Its thickness 7.5 mm., its aperture (diameter) 36.5 mm., its principal points h_1 h_2, at 1 mm. from the anterior and posterior surface, and its position 5', at 13.7451 from k; what then will be the posterior locus, or the distance S''_3 S''_4? To determine this we deduct the place of the lens, from 50 mm. the power (focus) of the + correcting lens, and adopt the following formula:

50—13.7451 = 36.2549 mm. Hence:

$\frac{36.2549 \times 15.3882}{36.2549 + 15.3882}$ = 10.8029 mm. from k, or 10.8029 + 13.7451 = 24.5480 + 2.1101 (the emmetropic locus of the normal eye), = 26.6581 mm. from 5'.

Now 13.7451 — 5.2152 (distance from h to k) = 8.5299 mm. + 15.3882 mm. (distance from h to S''_4 = 23.9181 mm., and 26.6581 (5' to S''_3 — 23.9181 (5' to S''_4) = 2.7400 mm = the posterior locus S''_3 to S''_4, in the case = 5' to h_2 of the lens.

The lens, to correct the ametropia being applied, as above, where will the optical centre or 5 be found within the eye. The distance between, h k, must be divided into two parts proportional to the anterior and posterior focal distances, or S' 15,4983 mm., and S''_4 15.3882 mm., and the effect of the correcting lens must cause k to be brought to 5. Hence 15.4983 — 15.3882 = .1101 mm., and 15.3882 × .1101 = 1.69424082 ÷ (15.4983 + 15.3882 =) 30.8865 = .0548 mm. behind h, or 15.3882 — .0548 = 15.3334 mm in front of S''_4.

What test types will be required when the image at S''_4 on the line a'' 6'' will = .0218 mm. in height. Formula, 5 S''_4 (15.3334) mm. : .0218 : : 5 6, or (5.2151 — .0548 = 5.1604 from 5000) = 4994.8396 mm. : 7.1013 mm., = a b at 5000 mm. from k, when the correcting lens is applied.

Thus to produce .0218 mm. at S''_4 the types must be, at 5000 mm. from k, 7.1013 mm. in height.

The types for this distance are smaller for the emmetropic eye, estimated by the constants of Heyl, = 7.1013 — 7.0330 = .0683 mm. less.

This difference may be disregarded considering the distance of the types from k. If however the types of Snellen be compared with the above, there is a marked difference, = 7.3359 (Snellen) — 7.0330 = .3029 mm. a quantity too great to be ignored.

With the correcting lens applied to the eye as above, the angle under which S''_4 is seen is 4′ 51″ and the angle under which S″ is viewed is 4′ 48″, that is when the value at a″ 6″ and a′ 6′ is = .0218 mm., which latter quantity produced or would be seen under, with Donders constants, an angle of 5′.

What will be the value of S''_4 when a b test type = 7.0330, the correcting glass applied, and Heyl's constants employed? Formula: 4994.8396 : 7.0330 : : 15.3334 : .0215 mm., which latter is a smaller image than is necessary to be able to see its several parts under an angle of 60″. To remedy this the types must be enlarged. Under what angle will such an image be seen. Formula $\frac{.0215 \times 180^\circ}{15.3334 \times 3.1416} = \frac{3.8700}{48.17140944} = .080^\circ = 4' 48''$.

The types being increased to 7.1013, at 5000 mm. from k, the image will become .0218 mm. at S''_4, and the angle under which the image is seen 4′ 51″, which is equivalent to an angle of 5′, under the constants of Donders.

It may now be inquired if the test types can be estimated from the refraction of the eye considered as an equivalent. In this estimate the following course is adopted. The normal refraction 1.3365 is the basis of calculation. This quantity, as is well-known, is derived from the relation between the anterior and posterior, principal focal distances of the emmetropic eye. It results that, if we could construct an eye with a posterior focus of 1, the anterior focus would be .3365 under the proposition. Hence (see Fig. 6) as h″ S″ = (20.7135 mm.) : h″ S′ = (15.4983 mm.) : : 1.3365 : 1.0000. Since then 1. and .3365 are proportional and express the relation of the sines in the case, it can be formulated, from what has been shown that, 15,4983 : 1.0000 : : .3365 : .02171 mm.; or the height of the image at S″ produced from an object .3365 mm. at S′. Hence the rule to find the value of S″: multiply the height of the object at S′, by the relative refraction within the eye, and divide the product by the anterior focal distance and the quotient will be the height of the image at S″. Thus we find the sine in the normal eye is, by this calculation, .02171 mm., which closely agrees with .0218 mm., found by experiment, as the sine of the smallest angle, under which the several parts of an object can be seen under an angle of 60″. If, .02171 mm. be the value of S″ what will be the altitude of the types at 5000 from S′ or (5000 + 20.7135 =) 5020.7135 from k? Formula: 15.4983 : .02171 : : 5000 : 7.0330 mm.; hence this estimate corresponds with that of the emmetropic types as found by another method of calculation heretofore given.

Ametropia may be estimated in the same manner by the rule just given. Take a case of hypermetropia equal to 20 dioptrics. Here (Fig. 6) h S''_4 = 15.3882 and h S′ = 15.4983 mm. The refraction in such an eye is but .9928, (see appended table) and the defect of refraction is .3437. That is if the refraction in the air were, .9928, the relative refraction within the eye = .3437. Hence according to the above rule the formula; 15.4983 : .9928 : : .3437 : .02202 mm., which latter quantity is the value (altitude of the image) at S''_4 of the case. It follows as 15.4983 : .02202 : : 5020.7135 7.8334 mm., the types required at 5000 mm. from S′ in the case. If now the refraction be aided by the application to the eye of a + lens of 50 mm. principal focal distance with its 5′ placed 13.7451 mm. from k, the refraction will thus be increased from .9928 to 1.3365, or by the refractive deficit — .3437 —, and the image will thus be decreased at S''_4 to .0215, k will become 5, and the types at 5000 mm. from S′ will be 7.0330 in altitude. The latter are not large enough, and must be increased to enable the several parts of S''_4 in the case to be seen under the smallest angle (60″) the eye is capable of viewing objects distinctly. If these types be increased to 7.1334 mm., then S''_4 will become .2171 omm. and be clearly visible.

Thus while we have been aiming to see objects under an angle of 5′, in theoretically employing the constants of Stammehaus and Heyl, in the simplified diagrammatic eye of Helmholtz, it is seen that the angle is 4′ 48″.

It is further observed that when the correcting lens is applied and the image at the retina has the same size, the angle in the ametropic, does not correspond with that in the emmetropic eye. It would seem therefore in determining the size of the types to be employed in estimating and correcting ametropia, these should be based, not upon the visual angle under which the object is seen, but upon the height of the image at the retina and the ametropic refraction.

It will also be noticed that under the new constants, the types will be smaller that those of Snellen, and hence those of that authority, must be reduced in order to correspond with the types dictated by the new constants. This is in harmony with the well known fact, that there are persons whose visual acuteness is greater than denoted by the types of Snellen.

Finally the position of the correcting glass may be found by refraction and proportion. Since the focal distance of such a glass must be equal to the distance from the object (Fig. 6) o to k, + the distance from 5 to h_2 of the lens, equal in this case (hypermetropia = 20. dioptrics) 50 + 2.7500 (the posterior locus) = 52.7500 mm., the proportion of its radius, or focal power employed, in correcting the ametropia, may be estimated from the defect of refraction in the case; viz: .3437. Hence the formula: 1.3365 : .3437 : : 52.7500 : 13.5654 mm., which latter quantity equals the distance from k to 5′ of the lens. This closely corresponds with this distance found by another calculation or 13.7451 mm. The difference between the two quantities being but .1797, it is probable, were all the calculations made with a greater number of decimals, these distances would be still nearer alike, practically they may be assumed as equal, differing but .1796 of a mm.

In the appended table will be found the Dioptrics employed in determining ametropia, with their value in the metrical system and in English inches; also the anterior and posterior focal distances of the eye in the normal state and in the several grades of ametropia, as well as the normal and abnormal indices of refraction of the eye.

Zanesville, Ohio, May 22d, 1882.

TABLE OF THE INDICES OF REFRACTION OF THE EYE.

Number Dioptrics.	+ or −	Distance of object in mm.	Distance of object in Eng. inches.	Anterior focal distance, mm.	Posterior focal distance, mm. (Conjugate).	Ametropic Re.	C Exercised.	Sum of Re + C.	Defect of Re	Excess of Re.	C not exercised.	Emmetropic Re.	Emmetropic C.
00.0	0	5000.	200.0	15.4983 mm.	20.7135	None	None	1.3365	None	None	None	1.3365	0
14.0	+	84.6	2.8		17.3301	——	1.1181	1.1181	None	None	——	——	1.1181
								2.4546					
20.0	Hypermetropia +	50.	2.		15.3882	0.9928	1.1181	2.1109	.3437	None			1.1181.
18.0		55.5	2.2		15.8321	1.0215		2.1396	.3150				
16.0		62.5	2.5		16.3028	1.0519		2.1700	.2846				
14.0		70.	2.8		16.7148	1.0784		2.1865	.2581				
12.0		83.3	3.3		17.2831	1.1151		2.2332	.2214				
10.0		100.	4.		17.8025	1.1486		2.2667	.1879				
9.0		111.	4.4		18.0666	1.1657		2.2838	.1708				
8.0		125.	5.		18.3405	1.1833		2.3014	.1532				
7.0		142.8	5.7		18.6164	1.2011		2.3192	.1354				
6.0		166.6	6.6		18.8986	1.2193		2.3374	.1172				
5.0		200.0	8.		19.1868	1.2386		2.3567	.0979				
4.0		250.	10.		19.4801	1.2569		2.3750	.0796				
3.0		333.3	13.3		19.7791	1 2762		2.3943	.0603				
2.0		500.	20.		20.0843	1.2959		2.4140	.0406				
1.0		1000.	40.		20.3957	1.3159		2.4340	.0206				
20.0	Myopia −	50.	2.		31.6750	2.0437	0.4109	2.4546	None	.7072	.7072		
18.0		55.5	2.2		29.9467	1.9322	0.5224			.5957	.5957		
16.0		62.5	2.5		28.3924	1.8319	0.6227			.4954	.4954		
14.0		70.	2.8		27.2269	1.7567	0.6979			.4202	.4202		
12.0		83.3	3.3		25.8427	1.6674	0.7872			.3309	.3309		
10.0		100.	4.		24.7624	1.5977	0.8569			.2612	.2612		
9.0		111.	4.4		24.2691	1.5659	0.8887			.2294	.2294		
8.0		125.	5.		23.7918	1.5351	0.9195			.1986	.1986		
7.0		142.8	5.7		23.3429	1.5061	0.9485			.1696	.1696		
6.0		166.6	6.6		22.9140	1.4784	0.9762			.1419	.1419		
5.0		200.0	8.		22.5040	1.4520	1.0026			.1155	.1155		
4.0		250.	10.		22.1136	1.4268	1.0278			.0903	.0903		
3.0		333.3	13.3		21.7404	1.4027	1.0519			.0662	.0662		
2.0		500.	20.		21.3832	1.3797	1.0839			.0342	.0342		
1.0		1000.	40.		21 0413	1.3588	1.0958			.0223	.0223		

CASES OF POISONING FROM DRINKING IMPURE WATER

Read before the College of Physicians, Philadelphia, Pennsylvania.

BY JAMES H. HUTCHINSON M. D.,
One of the Attending Physicians to the Pennsylvania Hospital.

During the past three months I have had under my care at the Pennsylvania Hospital a series of cases, which presented a rather unusual set of symptoms, and which possesses so much interest that I feel justified in taking up your time this evening with a brief account of them.

The patients were all Germans, and were all employed in a large sugar refinery in this city at the foot of Bainbridge street, on the Delaware River front; where, however, none of them had worked more than two, or at most three weeks before the occurrence of the attack. The cases so closely resemble one another, that the history of one will suffice for my purpose. I have selected that of the first patient admitted, which was, moreover, much the severest of them all.

R. R., æt. 21, born in Germany; single; shoemaker, was admitted into the men's medical ward of the Pennsylvania Hospital on January 30, 1882. One of his sisters is said to have died of consumption, but with this exception his family history is good. His own health has always been good until two weeks ago, when without any apparent cause, he was seized with diarrhœa, attended with a good deal of prostration. He has had as many as ten to fourteen stools a day, and has also had at times nausea and vomiting, but is sure that he has never had fever. Yesterday the diarrhœa ceased, and he has had no passage since. Upon admission the patient is anæmic, and complains of excessive weakness, of vertigo, and of pains in his back and limbs. The tongue is dryish, and coated with a thin whitish fur; the appetite poor, and the pulse slow; the temperature subnormal, 97°; there is no tympany. The examination of the heart, lungs and urine gives negative results only; he was ordered a pill containing nitrate of silver gr. ⅛, and opium gr. ¼ three times daily, and placed upon a restricted diet.

Feb. 2. The patient's bowels have not been moved since his admission; he feels less weak than when admitted; his tongue is also less coated, but his temperature is still subnormal. The use of the pill was discontinued, and he was ordered a teaspoonful of Huxham's tincture three times daily.

Feb. 20. The bowels are now moved regularly; he does not appear to gain strength; he was, therefore, ordered cod-liver oil.

March 6. Discharged cured.

I confess that when this case first came under my care, I was puzzled how to explain the symptoms it presented. The presence of excessive prostration with a history of diarrhœa lasting for two weeks, seemed to point to typhoid fever as their most probable cause. Against this hypothesis was the fact that the patient was positive in his assertions that he had not had fever at any time since he was taken sick, that none was present at the time of his admission or subsequently, and that there was no tympany or rose colored spots. His condition called, however, for a supporting treatment, and I thought it best to restrict his diet to liquid articles of food.

The other cases came in rapid succession, and presented the same symptoms as the first case. There were in all of them prostration, slow compressible and often dicrotic pulse, subnormal temperature, diarrhœa, sometimes accompanied by slight pain in the bowels, and absence of tympany. This similarity of symptoms appeared to indicate an identity of cause, and it was soon discovered that in addition to having been employed in the same refinery, they had been all subjected to an influence which seems to me to be sufficient to explain the symptoms from which they suffered. It was found upon inquiry that water from the river Delaware is introduced into the refinery for use in cleansing the evaporating pans, and that, after being used for this purpose, is returned to the river above the point although at a considerable distance from that at which it is taken[1]. The water is distributed throughout the building, and being more accessible to the workmen than the ordinary hydrant water, is freely used by them for drinking purposes. The water, although said to be filtered before being put to the use referred to, is probably from the presence of organic impurities unfit to drink.

There can be but little doubt that the use of the water of the Delaware River, contaminated as it must be opposite Bainbridge Street by sewage, was the cause of the singular symptoms observed in the six patients who came under my care. Impure as it was, it did not, however, produce typhoid fever, and my cases show that while impure water may produce prostration as great as that seen in this disease, it contains the specific typhoid germs.

The symptoms presented by these cases seem to have indicated the existence of blood poisoning rather than of irritation of the bowels. The latter could hardly have existed without the presence of a certain amount of fever. The temperature records will show that at no time in any one of the cases was there any elevation of temperature above the normal. The stools, too, indicated the existence of relaxation rather than of inflammation, they were rather dark in color and watery, and never presented the ochrey yellow appearance of the stools of typhoid fever. The cases further show that persons may become accustomed to the use of an impure water, or that at all events it may cease to excite in them after a certain time any active symptoms. It will be remembered that all the patients had only recently been employed in the factory, and the effects of drinking the water had shown themselves very soon after they had entered upon their duties. The older hands drank the water with impunity.

The cases all did well, and required little treatment. Hope's camphor mixture being used in most of the cases to check the diarrhœa, and quinia or Huxham's tincture as a tonic.

It may be well to add that the attention of the proprietors of the refinery has been called to the supposed cause of the illness of their workmen, and they have taken the proper precaution to prevent the occurrence of further sickness among them by cautioning them against the use of this water for drinking purposes.

I have appended to this paper the histories of the remaining five cases, which I had the opportunity of observing. They are drawn up from notes taken by Dr. J. M. Fox.

CASE II.—Diarrhœa with typhoid prostration, A. W., æt. 18; born in Germany, single, baker; admitted March 1, 1882; discharged March 13, 1882, cured. He came to this country last September; has always been very well until two weeks ago, when he began feeling weak and miserable, and to have headaches and diarrhœa, which have continued.

Upon admission has no fever; temperature subnormal: appetite poor; tongue slightly coated; some hebetude and slight headache; no fullness of abdomen, a few rales heard over apex of right lung; examination of heart and urine negative. Ordered quinine grs. viij, and liquid diet.

2nd. Tongue clean; only one passage from bowels; pulse slow, with a tendency to reduplication.

3rd. Bowels not moved since; no fever; feels much better, but is still rather dull.

13th. Continued to improve, and is now well.

CASE III.—Diarrhœa with typhoid prostration, H. S., æt. 28; born in Germany, single, laborer; admitted March 13, 1882; discharged March 20, 1882, cured. Has generally been very healthy; eight days ago he began to have diarrhœa, pain in the stomach and limbs, headache and vomiting, and these symptoms have continued; has had as many as twelve loose stools a day.

He has been working in a sugar refinery, and is the second patient who has been admitted from there into the hospital within the last month and a half, with much the same symptoms, except that the prostration of the other two (R. R. and A. W.) was more marked.

He says that he has been in the habit of drinking the water that is pumped from the Delaware, which is very likely the cause of the trouble.

Upon admission patient feels weak, dull, has headache, vomiting, and diarrhœa; pulse weak and reduplicated (this was also the case with the other two patients); appetite good; tongue clean. Examination of heart, lungs, and urine gives negative results. Hope camphor mixt. f ℥ss. was administered as needed.

15th, Bowels are still loose, and passages are light colored; no more vomiting; diet has been restricted; camphor mixt. was stopped, and powdered opium gr. ¼, with oxide of silver gr. ⅓ were given three times daily.

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[1] The water is taken from the foot of a long wharf projecting into the river; it is returned at the point nearest the factory. These two points are distant from each other about 150 feet.

19th. Diarrhœa has been checked, and he now feels and looks quite well. His temperature since admission has ranged from 98° to 98½°.

Case IV.—Diarrhœa with typhoid prostration, F. S., æt. 34, born in Germany, laborer; admitted April 25, 1882, cured. Has generally been very healthy. Two weeks ago, while working at a sugar refinery, he was taken with pain in the bowels and diarrhœa, which have continued up to the present time.

Upon admission the patient was somewhat prostrated; has diarrhœa and tenderness in the epigastric region; the tongue is slightly coated in centre, moist; appetite poor; pulse slow; no fever. Heart, lungs, and urine normal. Ordered quinine gr. viij. daily. Hope's camp. mixt. f ℥ss. as needed, and liquid diet.

April 20. Diarrhœa has been checked, and he feels much better,

25th. Feels very well; bowels regular; appetite good. Temperature has ranged from 98° to 98½°

Case V.—Diarrhœa with typhoid prostration, M. Z., æt. 39, born in Germany, laborer; admitted April 17, 1882; discharged April 25, 1882, cured. Eight days ago, while working at a sugar refinery, he began having diarrhœa and pain in the bowels, and these have continued up to the present time.

Upon admission his face is slightly flushed, and he has a typhoid apperance; is somewhat prostrated; tongue coated in centre, moist; pulse slow; bowels were opened six times during the night. He has no fever, and there is no fullness of the abdomen. Examination of heart, lungs, and urine gives negative results. Ordered Hope's camphor mixt. f ℥ss. to be given as needed, quinine gr. viij. daily, and liquid diet.

23d. Feels very well; bowels regular; no pain; appetite is good. Temperature has ranged from 98° to 98½°.

Case VI.—Diarrhœa with typhoid prostration, M. W., æt. 19, born in Germany, single, laborer; admitted April 24, 1882; discharged April 29, 1882, cured. Has generally been very healthy. Came to this country eight months ago; two weeks ago he began working at a sugar refinery; about a week ago he was taken with diarrhœa, which has since become worse; has not had any nausea or pain.

Upon admission patient is slightly prostrated; face flushed; temperature also subnormal 98°; tongue slightly furred, moist; pulse slow; appetite poor; bowels loose. Examination of heart, lungs, and urine gives negative results. Ordered Hope's camphor mixt. f ℥ss. to be given as needed.

29th. Diarrhœa has been checked, appetite has improved, and he seems very well again.

Prof. Huxley is now engaged upon a work which he and his friends think will prove to be the greatest of his life. It deals with Bishop Berkeley and his contributions to mental and medical science.—*Publisher's Weekly.*

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of May 8th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

Spina Bifida.

Dr. Theo. Luff brought before the Academy by request a report and sketch of a typical case of "Spina Bifida."

The child, a boy, was born August 15th, 1881, of apparently an healthy mother, an easy labor, the mother having given birth to other children. Upon examination of the child this vertebral lesion presented itself. The appearance then was flattened, somewhat depressed in the centre, with raw looking, dentated, irregular edges covered with a thin diaphanous membrane, showing the other structures beneath. He made a careful examination and found a complete bifurcation of the spinal column, commencing two and one-half inches from the coccyx, extending four inches. The interstice thus formed filled with soft spongy tissue, easily depressed. The child, with this exception, appeared in a healthy normal condition, the sensorism, day by day, perfectly developed. The parents remarked "we never had so bright a child."

Shortly after birth the hydrocephalic condition intervened and intensified until the sutures were all wide open and the diameters of the fontanelles much larger than at birth. The tumor also developed, rising up one and one-half to two inches above the level and filled with fluid. Paralysis of the lower extremities was present throughout the case, moderate pressure on the tumor gave but little pain, but would increase palpably the tension of the sub-arachnoid fluid.

When the child was five months old a catarrhal condition of the lungs supervened from which it died in eight days. No convulsions were present at any time and no sensory disturbance whatever.

The treatment consisted of compression with applications of iodoform lint. No operative procedure was permitted, as the father demanded a guarantee that it would cure his child, or that he would not die. No autopsy was allowed, though earnestly solicited. The mother attributed the lesion to a fall at the fifth month of pregnancy, as she suffered greatly at the time.

Part of the family history, as near as could be ascertained, is as follows: one grandfather (maternal) died of scrofula, ulcers on legs and body; one grandmother died of consumption; one aunt of consumption; one uncle of consumption; one uncle of pyæmia; one uncle of pneumonia. The brothers of this case, as well as some other children, members of the same family, are more or less cachectic. As to the etiology of these cases, perhaps tuberculization is one of the recognized prominent factors, as well as in rachitis itself. Possibly some acute inflammation may have taken place at some stage of intra-uterine life, arresting the development of osseous tissue in this and other fissures. Hare lip, cleft palate, or the division of the superior maxillary bone, for instance, the primary origin of which inflammation would lead us back to the original dyscrasia tuberculosa. We are like children in the dark as to the true causes of these abnormal changes in utero. In the new light shed by Prof. Koch, of Berlin, *i.e.*, the discovery of the "Bacillus Tuberculosa," we may get a deeper insight in these occult causes.

All surgeons and writers on hydrorachitis agree as to its fatality. Treatment seems to be conducted tentatively.

Dr. Brainard, of Rush Medical College, gives us the best percentage of success. He reports (*American Journal of Medical Sciences*, 1861), three cases cured by the injection of an iodized solution, one with thirteen injections, one with two, and the last with one, all unaccompanied with hydrocephalus.

Gross and other surgeons have failed with this method. In the LANCET AND CLINIC, of August 29th, 1878, is an account of two cases, copied from the *Vienna Medical Press*, where the iodine injections were a complete failure.

Tapping, compression, collodion, have their advocates in the profession. Sir Astley Cooper reports two cases cured by this process.

The clamp and ligature have been used with but limited success. Dr. Cavagnes, of the Bergamo Hospital, reports, in 1878, a case of an infant twenty-four days old, with a tumor the size of a walnut, cured by drawing an elastic tube twice around the base of the tumor with moderate compression. Fifteen months afterwards the child was still living, only a slight depressed cicatrix visible.

Some cases are on record cured by excision, but they are few in comparison with the failures by that method. Dr. Dawson (*Clinic*, November 10th, 1877), gave hope of a more successful treatment with a plaster of paris jacket. Even a spontaneous cure has occurred.

An interesting case is reported by Dr, Ensminger (*Lancet and Observer*, vol. xviii, No. 2, 1875), where the tumor was aspirated, yet ultimately the case had a fatal issue. No wonder, when it is stated the tumor weighed seventeen and one-half pounds when removed from the child at the post-mortem, and the child but eleven pounds, giving a balance in favor of the tumor of six and one-half pounds.

The agreement seems to be universal that if the tumor is small, the bifurcation limited, density of covering well defined, there is a fair chance of meeting with success in treatment; but where the tumor is large, the cleft in the vertebral column great, and accompanied with hydrocephalus, little hope can be entertained in any remedial measures whatever.

In summing up this epitome of treatment, one is led to endorse Ashurst, who says: "No case of spina bifida ought to be subjected to any active operative interference, except in the most urgent circumstances, and the mildest, which holds out any rational prospect of cure, should be the one selected."

DISCUSSION.

DR. P. S. CONNER said that the case just reported was remarkable on account of the length of the cleft in spinal column. He had never seen one approaching four inches in length. Spina bifida is a subject of great interest not only on account of its etiology, but also as regards its prognosis and treatment. The disease is consequent on an intra-uterine accumulation of fluid in the central canal of the cord or in the arachnoid, preventing a closing of the arches of the spine. The anatomical relations of the cord to the tumor may be various; in some cases the accumulation is in the central canal which remains permanent, sometimes the posterior portion of the cord passes over the tumor, in others the whole cord itself with its coverings are included in the tumor. The treatment and its relative promise of success depends on whether or not a part of the cord is in the tumor. If it be simply a serous cyst not including the cord treatment may be of avail, if the cord is included there should be no operative interference. Nature will sometimes cure spontaneously when the tumor is independent of the cord. The covering of the sac is of varying thickness, sometimes it is very dense, at others it is a mere film ready to burst. If we can determine if the pedicle is narrow or there is communication with the cord we solve a great question. It is always a serious matter to know whether to tap or not. A large proportion of cases upon whom this has been practiced die. Brainard's treatment by injections of solutions of iodine had been almost entirely abandoned when James Morton used a solution of iodine and iodide of potassium in glycerine, holding that the latter is less liable to be absorbed and therefore less likely to cause an inflammation of the cord, which is always an element of danger in injections. Morton's method was at first favorable, according to his statistics, but in late years it has also proved fatal. Puncturing the sac is often a source of danger. When the deficiency is extensive and treatment therefore of no avail, fortunately other morbid conditions will generally carry the child away if nature cannot affect a cure. Dr. Luff was, therefore, justified in letting this tumor alone, when its size was so great and the hydrocephalus so large. Associated with spina bifida there may be other malformations as club-foot, etc. To sum up then the speaker's treatment of spina bifida would be as follows: If the tumor were tense with thin walls he would aspirate, as death oftener results in such cases after a spontaneous rupture of the sac than after instrumental means. If compression could be made without injury he would resort to it, a moderate degree is sufficient; he would, therefore, not use the spinal jacket. Ligation is to be rejected because the child is apt to die from the inflammation caused by the ligature. As a rule, it is best to temporize. If his child had an extensive spina bifida he would be glad if it were relieved from this deformity by death.

DR. RANSOHOFF remarked the Dr. Luff's paper was concise but comprehensive. The previous speaker referred to the elements of the cord passing over the sac. In many cases this may be detected by means of transmitted light, as in examining for hydrocele, when the parts of the cord may be seen passing over the walls of the tumor. This fact may be of importance in settling the question of the feasibility of operative measures. The spontaneous cure of nature is a curious fact. Sometimes the repair begins in utero and develops after birth. A cyst may remain external, in which case operative measure may result in cure.

The tuberculous nature of spina bifida is a question much agitated at the present time. Although Dr. Luff's relation of the family history pointed out the tuberculous nature in this instance, and while the speaker would admit that the majority of cases might show such a history he could not accept every case of spina bifida as tuberculous; it may be a simple serous effusion without tuberculosis. Spina bifida occasionally though rarely develops after birth, hydrocephalus as a rule develops after birth. It is therefore not established that all cases of congenital spina bifida are the result of tubercular infection.

Dr. Forchheimer remarked that we ought to differentiate between hydrorachis and spina bifida. Not every cyst in the back of a child is a spina bifida. Spina bifida is a want of union of the dorsal walls which precedes the bulging of the sac, whilst hydrorachis is a dropsical collection which antedates the want of union of the bones. In the majority of cases first the defect and then the bulging occurs. The feasibility of an operation depends upon the character of the lesion as just described in the diagnosis. In hydrorachis operative interference may do good and lead to recovery, but it is doubtful if true spina bifida is ever cured.

Dr. Cassat was inclined to think that the cause of spina bifida and other deformities was owing to an imperfection in the germ, a lack of a part, so that there is nothing to develop, rather than to an arrrest of development; and, in support of this view, would cite some experimental researches that he thought bore directly on the subject. For five or six years he had taken considerable interest in the propagation of fish, especially for aquarium purposes; and in connection with Mr. Hugo Mulert, of 507 Race street, had experimented with a view to getting as great a variety of odd-shaped fish as possible. The late Dr. Darwin claims, "that all sports of nature are the beginning of new species and varieties, in both the animal and vegetable kingdoms." The Chinese have practiced for ages on this theory in developing new varieties, and have suceeded in producing the most wonderful and varied shapes in fish. Mr. Mulert secured some fringe-tailed gold fish from China, and he found that the eggs all became fertilized and hatched, while about thirty per cent survived after the third week,—the time when the source of supply from the vesicle ceases,—all having been absorbed, and they are in a condition to eat and have to seek food. Upon investigation for the large proportion of deaths at this period, it was found that many of the fish were deformed to such an extent that they were unable to swim and seek food; their motions caused them to turn over and flounder about, without any order or certainty. By placing food near enough for them to suck it in with the current of water passing through the mouth and gills, they grew to be monsters of such rare beauty and odd shapes, that some of them were sold for twenty times their weight in gold.

The greatest deformities and peculiarities occurred in the progeny of blood relations; the farther removed from kinship, the fewer deformities and more perfect fish were produced.

On farther investigation the deformity was found in the egg, the fetal fish showing deformity before the enveloping membrane egg shell was broken. An abnormality could not be detected in the egg until the embryo was far advanced.

The speaker's researches in this field were carried on with a view of ascertaining the cause of the large death-rate, and when the subject of spina bifida was discussed before this society, he thought the results of his investigations would not be uninteresting, especially as some of the deformities closely resemble spina bifida in the human being.

His investigations had embraced every period from the artificial contact of spermatic fluid with the ovum, to the time the fish was fully developed. He considered the subject one of interest and of importance from a pathological view, and if the Society desired it, he would take pleasure in giving still farther results of his researches with illustrations.

Dr. Ranshoff considered the remarks just made a most interesting contribution to the etiology of the disease. Some French authors claim that spina bifida occurs frequently in illegitimate children and is due to imperfect development caused by the attempts made by the mother to conceal her condition by tight lacing, etc.

Dr. Davy remarked that he expected to hear more about the etiology of the disease. What is the real cause? Is it a tubercular dyscrasia, a condition caused by the lowered vitality of the system? is it simply a dropsical effusion into the membranes of the brain and cord, or is it due to some want of pressure?

The speaker believed that spina bifida depended on a low condition of the system, complicated possibly by tuberculosis occurring at an early time of development of fetus, and before the dorsal plates come together, union being prevented by the lowered vitality of the fetus. The simple connection of a cyst with the cord is not a true spina bifida. The diagnosis is frequently difficult; one important point is that in true spina bifida the tumor increases when the child cries, showing that the fluid of the brain is at such a time forced out of the cranium and spinal canal. If this is established, the diagnosis is at once settled and any further examination by light is unnecessary.

A simple cyst of the spine may justify an operation, but in other conditions an operation is nearly always unjustifiable. He would not discard a plaster jacket altogether, as he was of opinion that any apparatas that envelops that part of the body, and is attached to an elastic bandage, will give a rigid support to the spine approximating the natural condition of the normal spinal column. Constitutional measures must, of course, not be overlooked.

An interesting complication is the club-foot, which must be explained from a lack of harmony in the development of the nervous centre, causing either a preponderance of muscular development on one side or a deficiency of the same in the other.

Dr. Conner, in concluding the discussion, said that the points of diagnosis given by two of the speakers were not always reliable. The test by light, as used for hydrocele is only available when the walls of the sac are thin, but if they are dense, as is frequently the fact, no light will be transmitted. The other differential point given by the previous speaker, namely, the bulging of the sac when the child cries is also unreliable as the communication with the channel may be exceedingly small, and consequently the tumor may be unchanged during this effort and yet we may have a case of true spina bifida. The probable implication of a part of the spinal cord in the tumor is an important point to bear in mind when tapping is to be resorted to. For these reasons it is a golden rule, long since recognized by surgeons, never to tap the cyst in the middle, but on either side, as the cord which lies always in the median line will then be avoided. The question of support to the spinal column is important, but we must recollect that there is a difference between the condition of the spina in early and that in after life. The support given to a child is by its lying down. His objection to the plaster jacket, therefore, was that while it is applicable in the adult, it does not fill its purpose in the child, it will only unnecessarily excoriate the delicate skin of the little patient.

Correspondence.

FOREIGN NEWS.

Editors Lancet and Clinic:

A month spent in Strassburg while the University is closed and the laboratories only open to those chosen few, who are on the brink of some great discovery or who think they are, perhaps only to find that their work has been done by another, as recently happened to one of our rising microscopists here, is not necessarily spent in rapturous admiration of the beauties of the city or the collections of art, for, alas, neither of them are abundant.

An early introduction to Professor Lücke secured the entree to the surgical hospital, and a few notes collected there may not be uninteresting, for every man of any originality does many things differently from others, some better, some worse. The hospital is a new one and stands just west of the old Burger Hospital. There are no buildings between it and the city walls, which secures it toward the south an open front and an abundant supply of fresh air. The hospital has eight wards with accommodations for about one hundred patients. There is a main building and two pavilions. On the first floor of the main building are found the offices, poliklinic amphitheatre, and several small rooms in which to isolate any patients if desirable. Above are four wards, two on each floor. Each pavillion contains but two wards. There is a dining-room for each ward and in the main building each floor has a sitting-room for convalscents. The amphitheatre is tastefully and conveniently arranged. The seating capacity, however, is small, there not being accommodations for more than one hundred students. All the instruments used are kept in small drawers arranged around the amphitheatre, and woe betide the unlucky assistant who forgets in which drawer any instrument is kept which the Professor may call for during an operation. The drugstore is in the court and is used in common by the several hospitals, all of which are together here. The post-mortem examinations are made in the anatomy building, just across the street, where Professor von Recklinghausen uses them to the best advantage.

The dressing used in the hospital by Professor Lücke is a modification of Lister's:

1st. A drainage tube is passed through or into the wound which is then closed with silk sutures. The protruding ends of the tube are then cut off level with the surface.

2d. A piece of Lister's fine silk protective, wet in the carbolic acid solution, is then carefully applied over the wound and the cut ends of the tubing.

3d. Several thicknesses of antiseptic gauze are next applied. If the wound be of one of the extremities the gauze is passed around the limb, if of the trunk, it must also be encircled.

4th. It is now enveloped in cotton wadding and a small bundle of cotton is carefully packed between the skin and the edge of the gauze bandage to act as a filter and present an impassible barrier to any floating microscopic organisms.

5th. It is next covered in with a sheet of rubber. (The manner of its preparation did not seem to be understood at the hospital. It is thinner and much less elastic than rubber dam and will tear very readily in two directions). This is impermeable to air and water. In its place a sheet of paper is sometimes used. The paper is prepared with shellac varnish and is also impermeable.

6th. The dresser now takes a broad starch bandage, which the nurse has just taken out of the starch water and wrung dry, so that there is no dripping from it during the application, and covers in the whole mass. This bandage is drawn rather snugly around and brings the at present rather shapeless and unsightly dressing into trim.

7th. An ordinary roller is now put outside or it may be left as it is.

The patients do not complain that this dressing is too heavy. Although it looks large and unwieldy it is light and firm, and prevents the concussions of every little accident from being transmitted to the wound.

In renewing it, which is generally done daily, it is easily and quickly removed, as follows: If the roller has been applied, this is first to be taken off. It generally adheres pretty firmly to the starch bandage beneath, but as the latter is by this time strong and stiff the patients never complain that the necessary force is painful. Then, by a single cut with a strong knife, the starch bandage is cut through from one end of the dressing to the other, and at the same time the underlying rubber or paper; the cotton pad just beneath effectually guarding the patient from the knife. It is then removed as an ordinary Bavarian plaster of paris bandage, by springing it open. The layers of cotton and gauze are off in an instant and the protective is gently lifted from the wound. The dressings removed are all put into the refuse bucket which stands by the bedside. The wound is washed with a weak solution of permanganate of potash or carbolic acid, the drainage tubes washed out with the same solution by means of a syringe. Everything is dried off with a wad of clean cotton and the dressing re-applied.

Although, from the description, this process may seem complicated and tedious, yet practically it is not so. A dresser with the assistance of an intelligent nurse can apply it very readily and quickly. It is quite surprising to see in how short a time eight or ten dressings can be changed and the dressing tray wheeled out of the ward.

The spray, it is almost unnecessary to say, is never used, except occasionally in the amphitheatre when the students have just come from a post-mortem, where they are greeted with half a dozen atomizers so placed as to keep them in an atmosphere of carbolic acid while the operator and patient are out of it entirely.

A slight modification of this dressing by combining it with the "through drainage," where the ends of the tubes are allowed to protrude through the entire dressing and the wound frequently washed out with an antiseptic solution, would make a capital dressing in amputations and other cases where the wound could be thoroughly drained. In such cases the dressing could remain *in situ* a week if all went well and the stiff starch envelope would be of the greatest comfort to the patient.

The most scrupulous cleanliness is observed in all operations. The first step is always to scrub the part with a brush and soap suds, shave off all the hairs and rinse it off with a solution of carbolic acid.

The circular method has been adopted in all amputations seen. The flaps are sewed up very expeditiously by means of a long needle, fast in its handle, which is thrust through both flaps. An assistant stands ready with a short ligature in his hand, which he slips into an open eye near the end of the needle. The operator pushes forward a slide in the handle and a delicate wire is thrust out from within the needle across the eye, thus closing it in and holding the ligature in place as the needle is withdrawn. The slide is now retracted, the thread freed, and the suture tied.

It was rather amusing to see the Professor array himself preparatory to attacking a recurrent carcinoma on the cheek and neck which would probably and in the end did require the removal of half the lower jaw. After taking off his coat and putting on a long rubber apron which covered him completely to his ankles, and drawing on false sleeves, he stooped down and rolled up his pantaloons half way to his knees, in order that any blood that might splash off the floor should soil his boot tops rather than his trowsers.

There was a good deal of blood and some twenty ligatures were applied. The artery forceps, with flat, serrated jaws, and several times the ligatures came away with the forceps. During an operation there would be at times half a dozen of these forceps, each fastened to an artery, hanging there like so many leeches.

As a clinical lecturer Professor Lücke is not very interesting. His remarks seem to be delivered rather as an audible soliloquy than a lecture. Often his back is toward the benches and again he seems to be addressing the floor. As he does not speak very plainly at best, a foreigner, not thoroughly conversant with the language, has great difficulty in getting anything from him.

H. L. Taylor.

PHILADELPHIA NEWS.

Editors Lancet and Clinic:

Since my last communication to you the question of admitting female physicians to membership in the County Medical Society has been settled and it is to be hoped permanently settled. This subject has occupied the attention of medical men for some months and caused considerable feeling. About six months ago Dr. A. H. Smith, who was then President of the County Society, proposed the name of a female practitioner, and the Board of Censors, after mature deliberation, reported that the constitution and by-laws made no provision for women members, but nevertheless the friends of the females pushed the subject and it was unanimously decided by the Society that they could be proposed and elected to membership in the same manner as required for the addition of male members. Accordingly the names of five feminine physicians were proposed and at a recent meeting of the Society were balloted for. After the election when the votes were counted it was announced that each and every one of the females had failed to receive the number of votes necessary for election, in other words they had been "black-balled." The meeting was one of the largest ever held by the Society and showed the interest taken in the matter. Chagrin and disappointment were plainly apparent among the champions of the female physicians, who singularly enough, all hold a position of some kind at the Women's College or Hospital.

It is an undeniable fact that even in medical matter there exists such a thing as patronage. The recent action of the New York State Society concerning consultations with quacks was another example of patronage, and it is to be hoped that the gentlemen from that State will be refused a representation in the American Medical Association.

The recent meeting of the Pathological Society was devoted to both intellectual and social enjoyment, Invitations were issued to members of the various societies and after Prof. Bartholow had finished reading his excellent paper upon the "Trophic System as a Factor in Pathological Processes," those present were invited to adjourn to the Society's private room where an elegant collation had been provided.

The "Mutter Course of Lectures," which are annually delivered before the College of Physicians, were entrusted to Dr. E. O. Shakespeare, a gentleman who has devoted his entire attention to pathological matters for many years. The course consisted of five lectures, which were illustrated by drawings.

The College of Physicians has organized a "Registry of Nurses," and will hereafter supply a nurse at any hour and for any kind of a case. This "Registry" is modeled after the plan that has been in operation in Boston for a couple of years and has worked to much advantage. A nurse applying for registration must present a certificate setting forth her character and experience, this to be signed by three physicians, one of whom must have recently employed her. If this certificate is satisfactory a fee of two dollars is charged the nurse and the name is placed upon the accepted list. The nurse must state the kind of nursing most experienced in and be willing to answer calls from contagious cases if desired. Any party making application for a nurse pays a fee of from one to five dollars, depending upon the kind desired and the hour at which the application is made. Wet nurses are also furnished and a special examination made so that there can be no danger of employing one suffering from syphilitic disease. For such an examination a fee of ten dollars is charged the applicant for the nurse. This action of the College deserves the support of the entire profession, as it enables a physician to provide his patient with a nurse of good character and experience. Already the Register is in successful operation, nearly *five hundred* nurses having applied for registration.

Another incident showing the evil emanating from the system of wholesale graduation has recently occurred in this city. About two years ago the right to practice was conferred upon a young gentleman of the fashionable circles and immediately his "shingle" was suspended from a window in his father's residence. After anxious waiting, the young physician hears of an old woman suffering from an organic heart disease and offers his services. A number of podophyllin pills were administered and followed by large doses of morphine. The morphine having produced very unpleasant effects upon the patient, the young doctor hurried off to a drug store and obtained an antidote in the shape of about a drachm of atropia to an ounce of the fluid extract of digitalis, but the patient did not wait for the powerful antidote and upon the Doctor's return was found to be dead.

The physician was at once declared insane and to have been so for months, so he was taken to the Pennsylvania Hospital for the Insane; meantime the Coroner investigated the case and found death to have been caused by poisoning and the unfortunate physician will have to settle the matter and determine the insanity claim in a court. It seems indeed quite singular that the parents allowed this young man's sign to remain so many months if he were irresponsible for his acts. Rumor says the patient was a worthless object of charity upon a Ward Relief Association and the Doctor might be classed among those spoken of as "cranks."

The Pennsylvania State Medical Society met at Titusville last week, Dr. J. L. Zeigler, of Mount Joy, presiding. Dr. Wm. Varian, of Titusville, was chosen President for the coming year, and it was decided to hold the next meeting at Norristown. Notwithstanding the inclement weather, the meeting was largely attended, several very important papers being read. Dr. C. K. Mills, of this city, made an appeal for the alteration of the Lunacy Law, which is very deficient in its provisions. The establishment of asylums for the criminal insane was also recommended.

The Legislature of Pennsylvania ought to make many changes in the laws concerning lunatics, as the number of "cranks" is increasing and they should not be allowed personal liberty, as it is dangerous to others in a community. Such people are allowed perfect freedom until they kill or poison some one, then protection and exemption from the penalty of the law is claimed upon the ground of irresponsibility. This is indeed a bad example to others who may be of feeble mind and have a tendency to encourage deeds of violence. If you will notice any daily paper you will not fail to see accounts of suicide and murder committed by persons supposed to be insane.

It is said that an effort is to be made to secure a permanent endowment fund for the chair of anatomy in Jefferson College. Prof. S. D. Gross, who has so ably filled the chair of surgery, has resigned and been elected emeritus professor. To fill the vacancy Dr. S. W. Gross has been chosen professor of principles and practice of surgery and Dr. J. H. Brinton professor of clinical surgery.

Dr. G. S. Mitchell, of your city, dropped in upon us the other day and gave account of old friends. The Doctor has acquired the proverbial bald head and full beard that bestows professional air and dignity. We both agree that bald heads are to be pitied. M.S.F.

Philadelphia, May 19, 1882.

VACCINATION.

Editors Lancet and Clinic:

I am of the opinion that our present system of vaccination is rather faulty. Since the present siege of small-pox began in this city I have met a number of persons who say that they have made a single trial and it failed on them. I also find that they feel very secure and consider further attempts as useless. In all these instances there was but a single insertion. As a result of such vaccination I am now attending a case of small-pox in a child aged six years. She was vaccinated last fall and this spring, and failed in both instances. She returned from school a few days ago quite unwell, and at the usual time the eruption made its appearance in the confluent form, and we have good reason to hope for a good recovery. Last fall two young men presented themselves for vaccination. I made two attempts on both of them without any success at all. A short time afterward I made another attempt on them with double insertions, and both took quite successfully. Had these two patients been exposed, there is every reason to believe that they would have contracted small-pox just as the child did, whom we have mentioned. The fault found, is this; that physicians do not follow the cases up after they vaccinate them, and that the laity must be blamed for not having the vaccination repeated. I usually make but a single insertion, and should it fail, repeat it and make a double insertion on one arm.

I feel quite certain that if the child referred to had had a double insertion of the virus that it would have escaped smallpox. The virus was applied both times by a well known physician of this city, hence I have no doubt but what the single insertions were properly made. I might mention other instances where single insertions failed and the double were effectual.

Yours, etc., A. A. MANNON, M.D.
133 State Avenue.

Selections.

MEDICINE.

LECTURES ON INFLAMMATION.—Delivered before the Royal College of Physicians, by J. Burdon Sanderson, M.D., LL.D., F.R.S., Professor of Physiology in University College, London.

Lecture III., Part I.—Etiology of Inflammation.

The most important of the propositions which I submitted to you in the last lecture was this: that the attribute which distinguishes an infective inflammation (*i.e.*, one which is capable of extending and reproducing itself) from a normal one (which tends to discontinuance on the removal of its cause)—in a word, the property of infectiveness—is but the pathological expression of a chemical state of the tissue and exudation-liquids of the inflamed part, for which, in the absence of any reliable chemical characteristics, we gladly accept the microscopical test of the presence of septic organisms. A second proposition, to which I also attach great importance, related to the agency of the floating particles of air and to the visible organisms which we know to be present in ordinary water, and moreover to be capable of exciting putrefaction. I endeavored to show that there is no scientific reason whatever for attributing to either of these phlogogenic properties. As I am very desirous to present this question from both sides, I will endeavor, by way of sequel to my last lecture, to place before you the argument of one of the most strenuous and efficient supporters of the opposite view that I know, Professor Hueter, of Greifswald. Formerly, says Professor Hueter (*Grundriss der Chirurgie*, page 1), it was taught that inflammation was produced by mechanical, chemical or thermal irritants. We now know that the most severe injuries can be inflicted without producing inflammation. Consequently, when an inflammation takes its origin from a wound, all that the wound does is to play the part of a door of entrance for the real *noxa*—water-germ, air-germ, or germ which sticks to the surface of the weapon or missile which inflicts the injury—as the case may be. When, on the other hand, the injury is not of such a nature as to occasion a breach of surface—as, for example, in the experiments I related in my first lecture, in which heat was employed for the purpose of producing inflammation—the reason why the warmed part becomes inflamed is, according to Hueter, that its vitality being depressed, air or water germs are enabled to penetrate it. Honestly following out the theory to its legitimate issues, Professor Hueter continues: Septic organisms exist everywhere, ready, whenever access is offered to them, to enter the body and fulfil their morbific function. Consequently, inflammation may be defined, with reference to the universality of its cause, as an *epidemic and contagious disease which prevails universally over the whole world*, with the exception of mountainous regions, near and above the line of perpetual snow. Here there are no germs, and, we may presume, no possibility of inflammation.

Such is the theory. Its ostensible foundation is the alleged experimental fact that the most extensive and severe injuries of vascular parts—involving bone, muscle, cellular tissue—may be inflicted under antiseptic precautions without producing any inflammatory effects whatever. To prove this, Prof. Hueter has made extensive series of experiments, all of which had this in common, that large portions of deep-seated tissues were destroyed—usually with the aid of Paquelin's cautery—without injury to the skin or superficial textures. As soon as the cautery had done its work, the external wound, which was so directed that it did not coincide with the track of the cautery was brought together, and of course treated antiseptically. With the exception of a few instances in which these precautions could not be carried out, the wounds not only healed by the first intention, but gave rise to no disturbance of any kind; so that, inasmuch as the operation was itself performed under deep anæsthesia, it may be fairly assumed that, notwithstanding the severity of the operation, there was little or no suffering. The animals were killed at various periods after the injury, varying from a few days to a few months. In the successful cases, the wounded surfaces of muscular tissue were as it were welded together, so completely that, on microscopical section of the hardened part, the line of junction could only be distinguished by a blackened mark due to the charring action of the cautery.[1]

Now, *prima facie*, these facts seem very like establishing Professor Hueter's aphorism; for it is clear that there were here no appearances suggestive of inflammatory exudation. I need scarcely say that there are other facts, both clinical and experimental; though I doubt whether any bear so directly on the point at issue. The most noteworthy are those which relate to the extraordinary results which, thanks to the antiseptic method, have been obtained during the last few years in the transplantation of tissues—such, for example, as the substitution of removed portions of peritoneum, by bits of dead membrane, without producing peritonitis[2]—a kind of sewing of new cloth on to old garments which a few years ago we should have thought absolutely incredible. All of such cases, which it would be easy to multiply, Hueter would say, are instances of injury without inflammation—proofs that if inflammation is the physiological effect of damage, you may, under aseptic conditions, have the cause without its consequences. But I venture to think that this is not the correct way of putting it. All that is definitely proved is, that in the absence of septic contamination, imflammatory changes are of limited duration, not that they are absent. Surely, this is triumph enough for Lister's great discovery.

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[1] "Experimental studien über das Verhalten tiefer Brandwunden" (*Deutsche Zeitschrift fur Chirurgie*, vol. ix, page 381), and "Ætiologische Lehre der Entzündung" (same volume, page 401).

There is an experiment which is daily performed in the streets of London, and elsewhere besides, which is very much to the point. Its results constitute a very serious objection to the theory that the presence of "viable inflammation-exciters," as Heuter calls them, is a condition *sine qua non* of inflammation. That experiment is simple fracture, which affords us an example of a severe but localized injury inflicted on a part to which germs cannot possibly find access. In every fracture a good deal of blood is extravasated, and in many a good deal of vascular tissue is damaged. Does that tissue inflame or not? Hueter says, consistently with his theory, No. We say, as emphatically, Yes; and need not I think, fear to stake the correctness of our view of the etiology of inflammation on the issue. Now, the progress of the partly pathological, partly physiological changes which take place in a fractured bone, is exceedingly well known. They have been investigated in man and in animals macroscopically and microscopically. The decision of the question has nothing to do with the first stage in the process—that of extravasation, coagulation and absorption of blood. It has still less to do with the third stage—that of the formation of the callus. All turns on the appearances which the injured part presents during the short period which begins with the absorption of the extravasated blood and precedes the earliest regenerative changes in the periosteum—those which lead to the formation of the provisional callus. At this time the surrounding muscular tissue, and the medullary cavity of the bone, the contents of the Haversian canals, are alike the seat of infiltration with small cells. The periosteum is separated from the bone, near the line of fracture, by a microscopical layer of similar character, through which the periosteal capillaries pierce to the bone—and all this at a time when no calcerous matter has begun to be deposited in the neighborhood of the periosteal vessels. The example of simple fracture confirms the proposition laid down in the last lecture—that every injury which is sufficiently severe, provided that it fall short of directly killing the tissue, produces inflammatory exudation.

Having occupied more time than I originally intended to give to the subject, which at the present moment, has, perhaps, more interest than any other—that of the cause and origin of inflammation—the time has come for considering how I may best bring my task to a conclusion within due limits; and, with this view, the best course open to me seems to be to select from the many topics which I have not found opportunity to discuss, a few of the most important and interesting.

During the ten or twenty years which followed the anatomical and physiological discoveries of the middle of the present century, pathologists looked in two directions for the explanation of the phenomena of inflammation; namely, to the blood-vessels and their recently investigated muscular coats, and to the vital properties of cells. The vascular phenomena, it was hoped, might receive their complete explanation in vasomotorial action; the textural changes, in the germination of tissues. In my first lecture, I endeavored to show that neither of these modes of physiological action is directly concerned in the process. I trust that I have already given you sufficient evidence that an acute local process characterized by heat, redness, and swelling, may be induced under conditions which preclude the possibility of textural germination. In any case, I do not propose to try to add to it, but will content myself with adverting to one or two considerations which are likely to suggest themselves as tending in the opposite direction. One of these is the supposed fact that the production of heat is greater in inflamed parts than others; the other, that, in many cases, inflammation appears to lead immediately to new growth. If it could be shown to be the case that a focus of inflammation is also a focus of calorification—that, in an inflamed part, the chemical changes which produce heat are more active than elsewhere—that fact alone would be fatal to the simple conception of inflammation which I have been endeavoring to enforce in these lectures; for inasmuch as the production of heat is the direct result of normal tissue-activity, a process dependent on diminution or arrest of tissue-activity could not lead to increased thermogenesis. Fortunately, the experimental evidence on the subject is now clear and decided. Twenty years ago, we all thought that John Hunter's sagacious utterence on the subject—that a "local inflammation cannot raise the temperature of an inflamed part above the source of the circulation"—was mistaken; for, by the very remarkable observations of Mr. Simon in this country, and of the late Professor Otto Weber, in Germany, it appeared to be shown that the temperature of the blood-stream returning from an inflamed part actually exceeded that of the heart. Notwithstanding the extraordinary care with which these observations were made, they have not been confirmed by those who have repeated them. It has been established by observations relating to all sorts of inflammations, made at every stage of their progress, that the temperature of the inflamed part never exceeds that of the rectum. Here, as in respect of other matters, we find that the most complete experimental observations are those of Cohnheim, who has shown in the most striking way that the increased temperature of external organs, when inflamed, depends on the activity of the circulation. For this purpose, comparative measurements were made by him of the temperature of the forepaw of a dog in a state of acute inflammation, and that of the opposite paw after division of the axillary plexus; the conditions compared being hyperæmia from vascular paralysis on the one side, from inflammation on the other. It was always found that the temperature of the paralyzed paw was slightly warmer than the inflamed; the difference between them being least when the inflammation was in the initial stage, and consequently the circulation most active. On this subject, therefore, John Hunter turns out to be quite correct, both in fact and theory.

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[2] Gluck, Ueber Transplantation, Regeneration, und entzündliche Neubildung, Langenbeck's *Archiv*, vol. xxvi, p. 896.

The other question that I suggested may be thus put. On the one hand, we know that the inevitable issue to which every acute inflammation tends is necrosis by arrest of the capillary circulation of the inflamed part; on the other, we observe that it often happens that regeneration of tissue follows so closely on the heels of this essentially destructive process, that we can hardly say where the one ends and the other begins. What is the relation between the processes of inflammation and repair in cases of this kind—as, for example, in simple fracture of the bone, when we see the physiological process of callus-formation preceded by a normal inflammation involving all the vascular tissues injured? The instance of bone, for the very reason that it serves well to illustrate the blending of inflammation with repair, is, of course, not suited for the investigation of the relation between them. For this purpose, I must ask your attention once more to the cornea, where both processes can be studied either together or separately, and under conditions which are so perfectly simple that no question can arise as to the significance of what is observed. When, in the manner described in my first lecture, the central part of the cornea of a rabbit is destroyed by the action of chloride of zinc, the immediate result is, as we then saw, that the tissue dies, and that its structural elements waste and disintegrate. We also saw that, outside of the necrotic area, these elements show themselves in an unaltered condition. But, in a cornea which is removed in an animal killed three or four days after the injury, it is seen that these marginal cornea-corpuscles have begun to extend their branding processes in the direction of the dead area; and, if these be compared with another cornea excised a few days later, appearances present themselves (in sections parallel to the surface) which indicate that in their further growth, these processes are gradually pervading the whole area. In this way, a new cicatricial tissue is formed, which consists of the same elements as the tissue which it replaces, although it differs from it in the way these elements are arranged. Here there can be no question that the vital endowments of the injured part have nothing whatever to do with the new growth by which its destroyed structures are restored. The regeneration takes place by an exogenous growth from the margin, not interstitially. The cells which take part in it lie outside of and beyond the limit of injury, from the direct effects of which they enjoy complete immunity. As accounting for their behavior, all that can be said is that, being in the neighborhood of a defect or gap that requires filling up, they bring about that end by growing onto it.

However clear may be the purpose of this regenerative growth of the cornea-cells, I do not think that we are in a position to explain the nature of the conditions which determine it; so that here, as in other cases, we must have recourse to that provisional kind of explanation which consists in placing the particular instance in rank with a number of others with which it corresponds so closely that, whatever the determining conditions may be, they are the same for all. The instances to which I refer are those in which a gap or defect in living tissue is filled, not as in the famous experiment by which Hueter discovered the process of animal grafting, but by a bit of some porous material, such as elder-pith, sponge, or catgut. Thanks to antiseptic surgery, it has of late years been shown that what we should at one time have called the "organisability" of such materials is almost unlimited. Probably everyone here is acquainted with the remarkable success which has been achieved by Dr. Hamilton of Edinburg ("On Sponge-Grafting," *Edinburgh Medical Journal*, November, 1881) in what he calls sponge-grafting. Dr. Hamilton has found that, when a granulating wound is filled with purified sponge, the granulation-tissue grows into the interstices of the sponge in such a way that eventually the whole of it disappears, having been incorporated in the cicatrix. Again, if an excised cornea be introduced into the peritoneal cavity of a rabbit, under antiseptic precautions, it occasions no disturbance whatever. It soon becomes enclosed in a vascularised envelope, the capillaries of which are derived from those of the serous membrane to which it adheres, and the same thing happens if you substitute a bit of sponge or catgut. These last cases differ from that of the cornea, in the presence of vessels, as well as in the circumstance that the framework or tissue does not belong to the place it occupies; but all have the same relation, or rather antagonism, which exists between inflammation and new growth. The one condition which is essential to the institution of a reparative or regenerative process, is the existence of a solution of continuity. Whether the defect be occupied by sponge, by tissue derived from another part of the body, or by dead tissue of the same part, the result is the same—namely, that the dead becomes incorporated with — grafted into — the living, by the agency of the normal elements of the uninjured part.

There is one other question which I am desirous to bring before you in these lectures; and it will necessarily be the last. It is that of the influence of the nervous system on the inflammatory process. I have already placed before you, very shortly, the evidence which exists that, in the well known case of inflammation of the cornea after section of the fifth nerve, the origin of the process is not neuroparalytic. On similar grounds it has been established that the bronchopneumonia, which inevitably follows section of both pneumogastric nerves, is also a traumatic inflammation due to the entrance of portions of food and other foreign bodies into the respiratory passages; and is, therefore, only an indirect consequence of the severance of the nerves.[1]

When these neuroparalytic phenomena were first known, they served, if not to suggest, at least to strengthen the belief that the action of nerves had a great deal to do with inflammation, either by virtue of a trophic influence exercised through them on the tissue, by the cerebro-spinal centres, or by vaso-motor reflex action. Thus, the attempt has been made to show, but with signal failure, that pleurisy could be induced by extirpation of the third cervical and first dorsal ganglia of the sympathetic chain in the neck; that meningitis, in like manner, would result from destruction of the superior cervical ganglion.[2] With somewhat better success, Dr. Brown-Séquard (*Lecons sur les Nerfs Vasomoteurs*, Paris, 1872, page 44) made certain experiments for the purpose of ascertaining why, in the human subject, severe burns are so frequently followed by inflammatory lesions of the intestinal mucous membrane. What he found was, that such results could be produced in guinea-pigs by similar causes; and, further, that it was essential that the nervous connection between the injured limb and the spinal cord should be intact. He accordingly was led to regard the visceral lesions which occur in burns as examples of "reflex inflammation." We may accept the fact, but scarcely its explanation.

But the point to which I wish more especially to draw your attention is not that of the relation of the nervous sytem to the causation of certain inflammations, but the part which it may be supposed to play in its initial phenomena. The phenomena I mean are those of determination of blood, or affluxus, or, as Virchow calls it, surging of blood ("Blutwallung," *Handbuch der Speciallen Path.*, vol. i., p. 141), towards an irritated part, of which we have the most familiar example in the congestion of the conjunctiva, which promptly follows the introduction of a grain of dust between the eyelid and bulb. In many inflammations, this preliminary rush of blood along the dilated vessels is absent; witness the cases dwelt on in my first lecture, in which the inflammatory state comes into existence *d'emblée*, in consequence of exposure to heat or cold; or the case of mycotic inflammation of the cornea, in which the episcleral vessels do not become affected until the infected material has slowly found its way from the ulcerated surface to the limbus; or in the case of erysipelas, where redness and swelling invade the skin in company, without any antecedent active congestion; whence we conclude that, although determination of blood is a frequent precursor of inflammation, it is not a part of it; and we are confirmed in that opinion by the observation that the "inflammatory blush," as Hunter called it, presents itself as the sole response of the vessels to local irritation; of which fact no better illustration can be given than the famous instance in which he observed it day after day in a patient whose toe he had occasion to cauterise regularly. "After each application," he relates (*Treatise on the Blood and Inflammation*, 1794, p. 158), "the surrounding parts put on a blush; and all the veins on the top of the foot, as well as up the leg, immediately began to swell, and became large and full."

No experiment can be better adapted to show the complete distinction between determination of blood and inflammatory hyperæmia than that described by Dr. Williams in the Gulstonian Lectures to which I have already referred. Hunter had shown by his experiment that it is possible for the inflammatory blush to subside, leaving no trace, or the injured part to be flooded with blood and then return to its original condition. But Hunter's attention was entirely fixed on the blood-vessels, to the action of which he attributed the whole process. For the purpose of separating Hunter's "incipient enlargement of the vessels upon the first excitement of inflammation", (*Treatise on the Blood, etc.*, p. 279) from the definitive changes which followed it, Dr. Williams most judiciously adopted this method of graduated irritation of the web of the frog's foot, which was at that time the only field of experimental observation. He found that a weak solution of capsicum applied to the web causes dilatation with acceleration of the movement of blood (hyperæmia with increase of motion) in arteries and capillaries; but if the solution were strengthened, or the application several times repeated, the quickening soon gave way to slowing and commencing stagnation. (See *Principles of Medicine*, third edition, pp. 241 and 263). The effect of the weak excitation was transitory, and the observation could be repeated any number of times on the same web. The stronger solution produced permanent damage of the tissue, resulting in inflammatory congestion, exudation, and stasis. In the mammalian mesentery, the same effect may be produced in a similar way. The substitution of 1.5 per cent. solution of salt for the ordinary .75 per cent. solution which is used as an irrigating fluid, has the effect, as Dr. Thomas has shown,[1] of fluid at once hurrying on the blood stream; and if this is done at a time when the mesentery has already undergone inflammatory slowing, and the colorless corpuscles are hugging the walls of the veins, these corpuscles at once resume their place in the axial current; so that, so far from the initial affluxes being itself an inflammatory phenomenon, we can, by inducing it, arrest an inflammatory process when it is in progress.—*British Med. Journal.*

THE RAPIDITY OF AMYLOID DEGENERATION.—Edward Bull, in several of his works on Bright's disease, has endeavored to demonstrate that the development and course of amyloid degeneration are, as a rule, vastly more rapid than has been hitherto admitted. In the present article he cites a case of amyloid kidney in which favorable circumstances have, as he considers, permitted him to determine the space of time that separated the caused moment from the first trace of the albuminuria. This period of time did not exceed thirty hours. The subject, a sickly man, twenty-one years of age, was attacked by a severe phlegmonous affection of the right lumbar region. An incision on November 12th, at noon, revealed the presence of a considerable abscess, which was treated by the antiseptic method. For a long time previous to and also on the day of the incision, the urine had been examined for traces of albumen, but always with a negative result. On November 13th, in the evening, traces of albumen were discovered for the first time. After a continuous increase of albuminuria, collapse and death occurred on November 30th. At autopsy the left kidney was found to be pale, swollen, and amyloid; the right kidney was implicated in the surrounding phlegmonous process, and was atrophied, sclerotic, but not amyloid; the liver and spleen were not amyloid. The accession of air to a suppurative centre being considered by him to be necessary to induce waxy change, a degeneration of the left kidney could not probably have existed prior to the incision, a circumstance still better corroborated, according to the author, by the previous absence of albumen from the urine as well as by the insignificant extension of the amylaceous deposit. Hence, the author considers that the case in question is strongly in favor of his opinions as to the rapid development of amyloid degeneration. It also agrees with his experience that the kidneys are in general the first organs attacked by this degeneration, or at least, that they are in all cases affected at a very early period.—*Nordiskt Medicinskt Arkix*, Bd. XII., No. 5.

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[1] A good summary of what is known on this subject will be found in Prof. S. Mayer's "Speciellen Nervenphysiolgie", published in the second volume of the *Handbuch der Physiolgie*. Leipsic. 1879

[2] See on this subject Vulpian, *Lecons sur l'Appariel Vasomoteur*, vol. ii., 1875, pp. 570, 571, as to the source of fallacy in these experiments.

[1] Thomas, "Ueber Entzündliche Störung des Capillarkrieslaufes bei Warmblütern." Virchow's *Archiv*, vol. 74, Sep. abdr., p. 27.

SURGERY.

How the Fibrinous Clot of an Aneurism is Formed.—The old and long-accepted view that laminated aneurismal clots are formed by a retarded blood-current depositing its fibrin in successive layers and the late theory of Broca, by which clots were classified as vital, active, or fibrinous, in contradistinction from those that were passive or mechanical, have been re-examined by Dr. H. D. Smith, of New Orleans, with special reference to a case of fusiform aneurism of the femoral. He had been much struck on previous occasions with the irregularity in the disposition of the fibrinous layers, differing as they did much from types that have been described. In this present instance he found abundent evidence to prove that the original fibrinous deposit, which measured only 2½ inches in diameter, had been separated from the wall of the vessel, allowing the blood to pass behind it. The laminæ also were not concentric, but imbricated as a rule, and it was plain that the blood-current wave had swept in different directions, at different times. The appearances called to mind the arrangement in the corollary petals of a flower like the rose, rather than the coatings of an onion, which has been the object so often selected for comparison. The cause of there peculiar deposits he traces to various conditions, and even to the position of the patient. When the fibrin is deposited between the clot and the sac, ridges and columns are formed, which at first are rectangular to the sac, but subsequently are pressed down by the onward current of the blood, which in passing deposits another series. The blood corpuscles are thought to be active agents in the organization of the thrombus. Each change in the form of the tumor necessitates a change in the manner in which the fibrin is deposited.—*Annals of Anatomy and Surgery.*

OBSTETRICS.

Oöphorctomy.—The subject of oöphorectomy has now for a considerable time been before the profession, and, although it was so fully and fairly discussed at the recent International Congress in London it will still require a long time before many points in connection with it, which are now *sub judice*, can be satisfactorily solved.

The three main points to consider are, its safety, its facility, and the selection of the cases suitable for its performance. First, its safety can now be said to be established. Without being able to draw a line above which its mortality would be considered high, and at or below which it would be considered normal, I do think the maximum mortality ought not to exceed 5 per cent. Dr. Robert Battey recently prepared a table of all the cases that he could obtain information of, and he found the mortality to be about 18 per cent. In my practice I have had forty complete cases, with a result that all have recovered from the operation, and I believe that nearly every one has been cured of the disorder for which the operation was undertaken.

Since it is a well established fact that increased experience in abdominal operations, perhaps more than in any other branch of surgery, tends to increased success, there will always be, as it were, two kinds of mortality — a heavier mortality, the result of a general statistical record, including therein all operators, the less experienced and the experienced; and the lighter mortality of those surgeons who have had considerable experience, and who have been enabled by their special skill to reduce the death rate to its lowest limit.

Secondly, the facility of oöphorectomy is a point requiring a few words. Some operators consider that it is both more difficult and more dangerous than ovariotomy. I, myself, am of the opposite opinion; although, exceptionally, as all know, nothing may be more easy of performance than a certain case of ovariotomy.

As regards the special details of the operation itself, three different methods of reaching the ovaries have been recommended. (*a*) The vaginal incision. The earlier cases were generally performed by this method, and most probably the high mortality spoken of above may be largely due to it. When we consider the unavoidable difficulties, and the liability to septic danger connected with this method, and also the ease of the abdominal method, the wonder is that it has not been discarded altogether. It is still practiced in America, and I believe also to some extent on the Continent There is no case that could be done by the vaginal method that could not be more easily and safely done through the abdominal wall; and, certainly, ovaries that could not be removed by the abdominal incision, where everything is open to view and space is abundant, could not be removed through the vaginal roof where space for manipulation is necessarily very limited, and the sense of touch is alone our guide. In addition, in opening the vaginal roof there is a great danger of wounding the intestine.

(*b*) The direct lateral incision, *i.e.*, an incision on each side of the abdominal wall over the corresponding ovary. This is not now practiced. It is more dangerous and troublesome than (*c*), the median incision, which is the one usually praticed as being safe and simple.

It has been advised of late that the tubes should be removed in all cases where practicable, as a step more likely to secure the results desired from the operation than if they are left behind. I take it that the additional benefit of removing the tubes over and above that of only removing the ovary is, that it involves inserting the ligature more deeply down in the broad ligament, and so affecting the supply of blood to the uterus. Mr. Spencer Wells has recently endeavored to show that this result is obtained. I think it must be by the effect which is produced by the ligature of the ovarian artery: the uterine artery would be affected only indirectly, through its anastamosis, as it would be too far away to be caught by the ligature.

Thirdly, as to the selection of cases suitable for oöphorectomy. Here we are confronted with considerable difficulty. In fact this is the point upon which there is the principal dispute and criticism between the advocates and the opponents of the operation. The combined experience of those who have been engaged in this special work has not, up to the present, been able to define very exactly the limit and extent of its usefulness. Since it is an operation of election, time must elapse and results must be known, before we shall be able to say exactly what class of cases should, and what should not, be subjected to it. Dr. Robert Battey, the originator of the operation, and by whose name it is sometimes called, gives a safe rule which is embodied in the three questions: Is this a grave case? Is it incurable by any of the resources of the art short of the change of life? Is it curable by the change of life? If all three of the questions can be answered affirmatively, the case is a proper one. If not, the operation is not to be justified. The question of the occurrence of menstruation after the removal of the ovaries is not yet quite cleared up. A few cases have been met with where it has continued after the operation: I believe that these are to be looked upon as quite exceptional, and that beyond the slight metrostaxis shortly after the operation, the catamenia do not reappear. This is providing the tubes and the whole of the ovaries be removed. It may appear strange even to raise a doubt as to the whole of the ovary not being removed, but the mesovarium is sometimes so short as to be with difficulty ligatured, except deeply down in the abdominal cavity, and, when a ligature is applied, there is found to be so very little tissue on the distal side, that it is easy in one's anxiety to leave enough for safety, the knife or scissors may encroach on ovarian tissue; and when this happens the operation is *pro tanto* a failure, and that it does occur sometimes I think likely. This being so it must affect the secondary result of the operation. I am very sorry that I have not preserved more accurate notes of my earlier cases, in reference to the question of subsequent menstruation. In them I was in the habit of removing the ovary alone, or the ovary and tube together, according as it was easier, or appeared more convenient, and I have met with a few cases of the series where menstruation afterwards has been observed; but I am not able to identify them sufficiently for scientific accuracy. Of late, I have endeavored, in every case, to remove both ovary and tube, both to avoid menstruation and for more completely effecting the object in view for which the operation was undertaken. I have not seen, in one of these cases, any subsequent menstruation. It is therefore only an impresssion, but a strong one, upon my mind, that if both tube and ovary are removed, no menstruation will follow, but that it may be expected to do so if the ovary alone is removed, the tube being left behind.—*Thomas Savage, M.D., M.R.C.P., Lond., in Birmingham Medical Review.*

PROLAPSE OF THE URETHRA IN A YOUNG GIRL.—Dr. V. Ingersley reports the case of a girl, ten years of age, who attempted to stop laughing by stuffing a handkerchief into her mouth. She immediately had a sensation as if something had broken between her thighs, and soon afterward felt something which was not there before. The labia were separated by a reddish blue tumor, the thickness of the end of the index finger, about a centimetre in length, with an opening at its free end. There was a frequent desire to urinate.

The mucous membrane was easily reduced under chloroform, but gradually reprotruded. Reposition was effected, tannin was applied and the vagina was tamponed. Prolapse again occurred. A soft catheter was then introduced, passed through a cork which was secured close to the urethral orifice. The prolapse still recurred. The protruded portion was then cut off and four sutures were passed, so as to sew the urethral orifice to the mucous membrane of the vulva, and a soft catheter introduced. The sutures were removed in eight days, at which time there was no prolapse. Ten days later, another prolapse 1 ctm. in length, occurred. This was cut off without suturing, and no catheter was introduced. Eight days later the wound had healed and the prolapse has not recurred.—*Hospitals-tidende and Nordiskt Medicinskt Arkiv*, Bd. XIII., No. 29.

OPHTHALMOLOGY—OTOLOGY.

A CASE OF RUPTURE OF THE TYMPANUM WITH FACIAL PARALYSIS.—At the ordinary meeting of the Aberdeen, Banff and Kincardine Branch, Dr. Booth read the report of this case (*British Med. Journal*, 1881, vol. i., p. 922). A boy, aged seven years, eleven days before being seen, fell over the stair-railing and landed on the floor below, striking on his head. He remained insensible for some little time, and there was a slight discharge of blood from his right ear. When he regained consciousness it was noticed that the right side of the face was paralyzed. For twenty-four hours after the fall he could retain nothing on the stomach. The vomiting then ceased; all that attracted attention was the facial defect. Eleven days after the fall, the first time being seen by the writer, he presented a good picture of facial paralysis of the right side. On the affected side he could neither frown nor wrinkle his brow. Of the right eye the lower lid was depressed, while the upper one was drawn up by the levator palpebrarum; nose flattened on the right side; mouth pulled to the left—he protruded his tongue in the median line. The uvula deflected to the left, and the sensibility to taste was diminished on the right side. A watch heard on the left side, at a distance of three feet, on the right could be detected only at four inches. An examination with the speculum showed the drumhead retracted, the manubrium shortened, the short process prominent, while the long process of the incus and the articulation between the incus and stapes could be plainly seen. In the meatus were some crusts of blood, while in front of the manubrium a line of clotted blood indicated the seat of rupture. The inflation of the middle ear produced no perforation hiss and did not relieve the deafness. A vibrating tuning-fork placed on the vertex was heard better on the left side. A blister was applied close to the ear and repeated after a fortnight, while faradization of the facial muscles during the first two weeks was performed; after this, strychnine in three doses was given three times daily. Five weeks later, although no improvement occurred in the hearing, the facial paralysis was much better. The interest in the case centered in the probable site of the lesion. The corda tympani was probably implicated from the impairment in taste. As there was paralysis of the levator palati and azygos uvulæ, the seventh nerve must have been injured above the junction of the oidian, while the deafness on this side was undoubtedly due to lesion of the auditory nerve. The stapedius muscle (which derived its nervous supply from the portio dura) being paralyzed, produced foreshortening of the manubrium and retraction of the membrane, while the tensor tympani (supplied by the fifth nerve) pulled in the manubrium and produced retraction of the drumhead. There were no cerebral nor meningeal symptoms, nor those indicating disease of the labyrinth, such as tinnitus, vertigo, etc., and no serous discharge, so that Booth thought that all the indications pointed to an extravasation, referred to that point of the canal where the seventh and eighth nerves lay together, and that pressure on them caused the trouble.—*American Journal of Otology*.

ILLNESS OF DR. J. J. WOODWARD.—Dr. J. J. Woodward is reported to be seriously ill in Europe. The continued strain to which he was subjected during the president's illness broke down his nervous system, and soon after the President's death he went abroad. He is now at Nice, and the reports received from him do not encourage his friends.

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ISSUED EVERY SATURDAY.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, May 27th, 1882.

The Week.

TRADE VERSUS SCIENCE.—The great metropolis of the country (for after all the *new move* was executed by the doctors of New York City) has declared that science does not pay, and that the calling of medicine must be reduced to a trade. Of course the advocates of this new departure have a vast number of platitudes about the inconsistencies, imperfections, etc., of "the old code." Chaff to catch the country members. It is impossible for us to believe that a general practitioner in this country has anything to gain by fraternizing with irregulars, and hence we are compelled to take a most unpleasant view of the matter, unpleasant because we represent one of the recognized specialties, on the shoulders of which so far as we can discover, a large part of the odium of the New York departure is placed. Undoubtedly such a move presents certain *appearances* of advantage to specialists, particularly in large cities. Specialists have had a long and hard pull to gain recognition on the part of the general profession, and of late have reached such a point that the latter has rather pointed to certain special departments with pride in the honest work done and their contributions to general medicine.

The brilliancy in certain of these departments has allured vast numbers into their ranks, till perhaps the struggle for existence has become a serious matter in some quarters.

Opening new fields will not remedy the matter, as they simply make room and hold out new inducements for recruits.

We are too all the more surprised at any specialist advocating such a measure, for it has only been a few years since the New York oculists insisted upon a law that no member of the Ophthalmological Society should have out a sign bearing the word "Oculist," a point which struck the general profession at the time as an extreme spasm of virtue.

This rule was adopted by the Society to remove all quackish semblance.

Doubtless this new departure of the New York State Medical Society was supported largely by recent events in England, but this Society should be reminded that arguments for conduct in a realm of royalty and flunkeyism are not so potent where these latter do not exist. Her action has nothing in its favor, even from a specialist standpoint. The advocacy of such a move by a specialist of any sort in the West would to-day mean *medical ostracism*, and if we mistake not the adoption of such a measure by the State Society of New York means ostracism of that Society by the profession of every other State in the land, as will be demonstrated at St. Paul in June.

THE OHIO STATE MEDICAL SOCIETY. — The thirty-seventh annual meeting of the Ohio State Medical Society will be held at Columbus, Ohio, June 13th, 14th and 15th, 1882, beginning June 13th, at two o'clock.

Order of Business. — The meetings for daily sessions will be held at 9 o'clock, a.m., and 2 and 7:30 o'clock, p.m., in Lyndon Hall.

The Order of Business for each session will be:

1st. Reading the minutes of the previous session.

2d. Nominations for membership, report of committee on admissions, election of new members, and report of committee on medical societies.

3d. Reports (on the first day) of:
  a Librarian and Treasurer, T. W. Jones.
  b Secretary, J. F. Baldwin.

4th. Unfinished business.

5th. New business.

6th. Reports of standing committees.
  a Committee on publication, H. G. Landis, Chairman.
  b Committee on obituaries, Isaac Kay, Chairman.
  c Judicial Council, W. J. Scott, Chairman.
  d Committee on finance, D. Halderman, Chairman.
  e Committee on codification and revision, J. F. Baldwin, Chairman.
  f Committee on medical law, John Bennitt, Chairman.

7th. Reports of special committees.
  a Jos. Ransohoff, M.D., Cincinnati: "Progress of Surgery."
  b N. P. Dandridge, M. D., Cincinnati: "Surgical Diseases of the Genito-Urinary Organs."
  c Jas. Larimore, M. D., Newark: "Acute Peritonitis, Localized and General."
  d H. G. Landis, M.D., Columbus: "Progress of Obstetrics and Gynecology."
  e W. C. Chapman, M.D., Toledo: "Present Status of Therapeutical Inquiry."
  f D. H. Brinkerhoff, M.D., Fremont: "Exanthemata."
  g H. A. Tobey, M.D., Dayton: "Report on Insanity."
  h R. A. Vance, M.D., Cleveland: "Surgery of the Arteries."
  i S. S. Thorn, M.D., Toledo: "Abscesses of Perineum."
  j John A. Murphy, M. D., Cincinnati: "Functional Diseases of the Nervous System."
  k D. N. Kinsman, M.D., Columbus: "The Etiology of Consumption."
  l E. B. Pratt, M.D., Mt. Sterling: "Treatment of Inflammation of the Knee-Joint."
  m C. A. Kirkley, M.D., Toledo: "Epithelioma of the Cervix Uteri."
  n Geo. A. Collamore, M.D., Toledo: "Report on the Progress of Medicine."
  o Wm. Morrow Beach, M.D., London: "Achievements and Failures in the Medical Art."
  p Sidney Norton, M.D., Columbus: "The Contamination of Drinking Water and what constitutes Impurities of Drinking Water."
  q Henry G. Cornwell, M. D., Columbus: "Cystic Tumors of the Orbit, with a Case."
  r A.M. Bleile, M.D., Columbus: "Digestion."
  s Geo. W. Garrison, M.D., Utica: "Cancer."
  t W. H. Christopher, M.D., Van Wert: "Practical Microscopy."
  u S. C. Ayres, M.D., Cincinnati: "Retinitis Albuminurica," and "Granulations of the Middle Ear."
  v W. W. Seely, M.D., Cincinnati: Report on Otology.
  w W. B. Davis, M.D., Cincinnati: Report on Materia Medica and Therapeutics."
  x D. Little, M.D., Logan: "Medical Electricity."

y W. B. Hedges, M.D., Delaware: "Treatment of Pneumonic Fever."

z H. B. B. Montgomery, M. D., Gilboa: "Medical Ethics."

a Theo. Eichberg, M.D., Cincinnati: "Report on the Progress of Laryngology."

b^1 Thad. A. Reamy, M. D., Cincinnati: "Uremia, and its Treatment."

c^2 Chas. P. King, M.D., Newark: "Trichina Spiralis."

Special Order.—The report of the Executive Committee will be first in order at the first session.

The election of Officers will take place Wednesday afternoon, immediately after reading of the minutes.

The retiring President will deliver the Annual Address immediately after the election of Officers.

Prof. Edward Orton, of the State University, will deliver an address on the evening of the first day (Tuesday) on "The Relation of the State to Public Health."

Dr. J. R. Black, of Newark, will lecture on the evening of the second day (Wednesday) on "Preventable Diseases."

Hotels and Railroads.—The principal hotels will entertain members at reduced rates.

The different railroads entering Columbus will sell round trip tickets at four cents per mile one way, upon presentation to the local agent of the proper certificate.

These certificates will be forwarded on application to the Secretary of the State Society. Members and Delegates making application for certificates must mention the name of the road over which they propose to come.

Society Committees:

Publication—H. G. Landis, J. B. Schueller, R. M. Denig, J. M. Wheaton, J. F. Baldwin.

Executive—T. C. Hoover, W. H. H. Nash, J. B. Schueller, S. H. Steward, A. Cooper.

Judicial Council—W. J. Scott, W. T. Ridenour, John Davis (Dayton), W. H. Mussey, H. J. Donahoe.

Finance—D. Halderman, D. D. Bramble, A. Hurd, C. E. Beardsley, E. W. Howard.

Medical Societies—E. Pearce, jr., S. S. Thorn, G. S. Franklin, W. S. Constant, Joel Pomerine.

Constitution—J. F. Baldwin, J. B. Thompson, T. W. Jones.

Obituaries—Isaac Kay, W. C. Chapman, Jonathan Morris.

Medical Law—John Bennitt, A. Dunlap, W. J. Scott, B. B. Leonard, D. N. Kinsman.

Admission—E. Stanley, N. H. Sidwell, Jonathan Morris, J. F. Gabriel, H. G. Landis.

STARLING LOVING, Pres't. J. F. BALDWIN, Sec'y.
C. A. KIRKLEY, Ass't Sec'y.
Columbus, O., May 5, 1882.

AMERICAN MEDICAL ASSOCIATION.—In anticipating the meeting of the American Medical Association in St. Paul on the 6th, 7th, 8th and 9th of June prox., the Committee of Arrangements have secured the following rates from the various railroads entering at that point:

The Chicago, Milwaukee and St. Paul R. R. offers a rate of $12.50 for a round-trip ticket from Chicago to St. Paul and return to delegates and ladies accompanying them upon presentation of credentials at general or depot offices in Chicago; also return tickets to all points this side of Chicago for one-fifth fare, on certificate from the chairman of the Committee of Arrangements.

The Chicago, St. Paul, Minneapolis and Omaha offer the same rates from Chicago and all points between Chicago and St. Paul; also from Sioux City and all points north. From Omaha and all points south, two cents a mile for round-trip tickets.

The Minneapolis and St. Louis R.R. offer the same rates ($12.50) from Chicago to St. Paul and return, via the Chicago, Rock Island and Pacific R.R., and a rate of $18.00 from St. Louis to St. Paul and return, via St. Louis, Chicago, Burlington and Quincy R.R. (via Albert Lea). Also one-fifth fare returning to all intermediate points.

All tickets on above roads good till July 10th.

The St. Paul, Minneapolis & Manitoba R.R. *will give passes to every delegate and to ladies accompanying them, over all divisions of its road, good for the entire month of June. Their road runs through the celebrated Red River Valley, and the great wheat farms to Winnipeg. It connects Minneapolis and Lake Minnetonka* (the largest watering place in the State, with four large hotels), *with St. Paul.*

The Northern Pacific R.R. will return all delegates for one-fifth fare, *and offers free transportation for the month of June to delegates and ladies accompanying them, to the Yellowstone Valley and return.*

The St. Paul and Duluth R.R. *offers free passes to delegates and ladies accompanying them, over their line to Duluth on the north shore of Lake Superior and return.*

The two lines of river packets, viz.: The St. Paul and St. Louis Packet Co., and the Diamond Jo line offer one-half *transportation* rates from all points to or from St. Paul. (They charge full rates for berths and meals).

The Lake Superior Transit Co. offer the following rates:

Buffalo to St. Paul,	one way,	$27 10
" " "	round trip,	47 20
Erie " "	one way,	25 40
" " "	round trip,	45 60
Cleveland "	one way,	23 75
" "	round trip,	39 20
Detroit " "	one way,	21 20
" " "	round trip,	35 20

Meals and state rooms on steamers are included in the above rates.

The above Company have also offered a complimentary excursion down the lake and return, from Duluth, one day immediately after the meeting.

The hotels of St. Paul are the "Merchants" ($3 to $3.50), "Metropolitan" ($3 to $3.50), "Windsor" ($2.50), "Clarendon" ($2.50), "Sherman" ($2.50), "International" ($2.00), "St. James" ($2.00), and "Commercial" ($2.00). The three first are provided with elevators.

The Opera House, in which the general session will be held, seats a thousand persons.

Minneapolis, a city of sixty thousand, lies nine miles from St. Paul on the line of the St. Paul, Minneapolis and Manitoba road, and has fine hotel accommodations. Half-hourly trains connect the two cities. Trains run almost hourly to and from Lake Minnetonka.

ALEX. J. STONE,
Chairman Committee Arrangements.

THE MIAMI VALLEY MEDICAL SOCIETY.—Will hold its next regular meeting in Loveland, Clermont County, Ohio, on Tuesday, June 6th, 1882, at 10 o'clock A.M. Papers will be read by by Drs. Rusk, Stevens, Sidwell, Darby, Mullen, Kenedy, Combs and Scoville. Dr. Wm. B. Davis of Cincinnati will deliver the public lecture in the evening. Subject, by request of committee, will be "Notes on European Travel".

W. A. CARMICHAEL, Sec'y.
S. S. SCOVILLE, Prest.

RESUSCITATION OF ANIMALS AFTER EXPOSURE TO EXTREME COLD.—F. F. Loptschinski says (*Vratsch*, No. 5—7) there is a remarkable disagreement between experimenters and clinical observers as to the manner of treating individuals that have been exposed to extreme cold. While nearly all of the latter hold that the application of heat should be gradual, of the former Beck, Horwat, Jacoby advise that it should be rapid. The author has experimented with dogs in order to solve this question. Some of the animals were exposed to cold air (—17° C., two above zero F.) others were packed in freezing mixtures (—13—15° C., 6—8° F.). After freezing, one of the animals (twenty experiments were made, each with three dogs) was immediately placed in a warm bath of 37° R. (115° F.); the second was placed in a room the temperature of 0° (32° F.), and then, as the temperature of the rectum arose and manifestations of life were shown, the bodily temperature increased. Friction with brushes and dry cloths were used in all three cases.

The experiments, which were made with great care, throw light on various conditions which will not be referred to here (blood examinations, microscopic examinations of the muscular tissue, conditions of temperature, etc.). But there were other results which have a practical significance for physicians. Of twenty animals that were exposed to a low temperature, which was gradually elevated, fourteen died; of twenty animals that were immediately brought into a warm apartment, eight died; of twenty animals that were immediately placed in a warm bath, none died.

THE PHYSIOLOGICAL ACTION OF THE RATTLESNAKE VIRUS AND ITS ANTAGONISTS.—Dr. Isaac Ott, following out a line of investigation instituted by Drs. S. Weir Mitchell, of this country, and Sir Joseph Fahrer, of England, has studied the circulatory phenomena to be observed after an animal has been the victim of snake-bite. He employed four rabbits for his first series of experiments, and having applied Ludwig's kymographion as soon as possible after the virus had been instilled, made notes of the arterial pressure and pulse-rate. He concluded from these observations that the rattlesnake-poison kills by producing a failure of the heart, and by diminishing arterial tension. Subsequently, in a second series of seven cases, ammonia, alcohol and digitalis were given to counteract the poison, and they were found to exalt arterial tension. Ammonia and alcohol also increased the pulse-rate, while on the other hand digitalis slowed it. Toward the close of life excessive stimulation by these same reagents rapidly exhausted the cardiac irritability.—*Archives of Medicine*, April, 1882.

THE SYNTHESIS OF QUININE.—The *Comptes Rendus*, etc., de *Académie des Sciences*, of April 3, 1882, contains a copy of a letter addressed to the President of the academy, by Mr. E. J. Maumesie, announcing the successful synthesis of quinine. The author promises to furnish the details shortly; meanwhile he announces that the artificial production of quinine is easily accomplished by the agency of the univalent residue NH_2. The author sent with the letter a package under seal, containing a sample of the product, and only desires to finish the therapeutic tests, before communicating his paper. He states that the artificial alkaloid is identical in physical and chemical properties with the natural alkaloid.

NEW YORK CODE OF ETHICS.—The chief effect of the New York code of medical ethics will be, that the physicians of the great West and South, the Southwest and the Trans-Mississippi, who have sent three-fourths of the best practice to the leading physicians of New York City, will no longer do so; but will send them to Chicago and Cincinnati and New Orleans, where they can be treated equally as well.—*Gaylord's Medical Journal.*

BUSINESS NOTICES.

I have used FENNEL'S ERGOTIN and have been exceedingly well pleased with its action. I am positive that in several cases, its efficacy has enabled me to save life.

JAS. G. HYNDMAN, M.D.
Prof. Medical Chemistry and Clinical Laryngology.

FESSENDEN N. OTIS, M. D.
Clinical Professor of Venereal Diseases, College of Physicians and Surgeons, New York; Attending Physician Charity Hospital; Consulting Surgeon St. Elizabeth's Hospital, etc.

"During the past few months, I have made use of the combination of antiseptics, manufactured according to a published formula by Messrs. Lambert & Co., of St. Louis, under the title of 'Listerine.'

"It has appeared to me to act exceedingly well in that class of cases in which I have heretofore depended upon iodoform and the solutions of carbolic acid. As an application to wounds resulting from surgical operations, it has seemed excellent. In the dressings of venereal ulcerations, it has been satisfactory; used in full strength upon superficial chancroids, it has appeared to me to act as efficiently as iodoform.

"I know of no reason why it should not be tried as a substitute for iodoform and carbolic acid, in that range of diseases where these agents have been found efficacious, and with the great advantage of being free from their objectionable odor."

Bibliography.

MILES' "REPORT ON SMALLPOX."[1]

The pamphlet before us is one of the most interesting and instructive public documents issued for years by our municipal authorities. It is a special report made by the retiring Health Officer, Dr. A. J. Miles, to the Board of Health of Cincinnati, concerning the present smallpox epidemic. In it is given a complete history of this visitation from the appearance of the first case in January, 1881, up to May 6th, 1882. Quotations from the records show that as early as February 15th, 1881, after one case case had occurred in this city, the Health Officer called the attention of the Board to our liability to the disease, and advised a general vaccination of the poor by the ward physicians. At the same time authority was given him by the Board to purchase bovine virus for distribution among the district physicians. In April, 1881, a physician of this city was arrested by order of the Health Officer for neglect to comply with the law concerning the registration of infectious diseases.

After the disease had almost disappeared from the city it raged (September, 1881), quite violently in Covington, just across the river. Quarantine was at once established against the importation of household goods and clothing manufactured there for wholesale houses in this city.

In the meantime, however, the disease showed itself in several quarters of Cincinnati. Omnibus and street car owners were required to remove all cushions from their vehicles. Thousands of circulars were distributed in the infected and threatened districts calling upon the people to vaccinate, and details were made from the district physicians for daily attendance at the health office for the purpose of free vaccination. To give still greater publicity to the importance of this measure, advertisements were inserted in the daily papers giving the names and residences of the ward physicians where the poor could be vaccinated without cost. Each day the daily papers were furnished with a list of the new cases reported, so that no one could long remain ignorant of the presence of the disease or its locality, or of the means to secure immunity. Yellow bills announcing the presence of "Smallpox in this House" were ordered to be posted on each house where the disease existed, and the occupants were forbidden to remove them until the cause was removed and the house thoroughly disinfected and fumigated. The State Legislature, in session at the time, neglected to pass the bill before it making vaccination compulsory, but our city health authorities relaxed none of their efforts to induce the people to adopt this precaution.

In this report, Dr. Miles embraces the opportunity to reply to some of the objections urged against the plans he followed. The sprinkling of disinfectants about the rooms of the patients suffering from smallpox, is not in our opinion, of any great utility. But the plan of removing and burning the bedding and clothing of the patient after recovery or death was certainly productive only of good. In order that this should be thoroughly carried out, physicians were requested to report the discharge of their patients upon recovery. If the case happened in a tenement house the room was thoroughly fumigated with sulphur and other antiseptics before permission was given to re-occupy it.

The greatest opposition encountered by the Health Officer was to the enforcement of the system of placing placards upon the houses infected with smallpox. In this action he was justified by the opinions and actions of the best sanitarians in our own and foreign countries. The objections urged against this system of placarding were that it created much unnecessary alarm and that it did not at all prevent the spread of the disease, inasmuch as the residents of the infected houses were at liberty to come out and thus carry the infection with them. In the opinion of the writer of this notice, the plan of publishing the numbers of the houses where cases were appearing, and of placarding these houses tended very largely to prevent panic, as by this means it was clearly shown that the disease prevailed most extensively in those portions of the city occupied chiefly by the lower and more ignorant classes. Every physician in the city will bear witness that the posting of each fresh placard brought people of the vicinity to his office to demand vaccination. Many, even at this late date, continue to postpone this only preventive until warned of personal danger by a placard on a neighbor's house. By the same means principals of schools have been notified of the presence of the disease in certain houses and have been enabled to prevent the attendance at school of children, members of whose families are suffering from the disease. These are but a few of the many advantages which physicians see arising from the system of placarding. It may be that the rule has been too rigorously enforced in the few cases which have occurred in private families occupying separate houses; but, as we all know, the great majority of cases have been in large tenement houses, where, under our present law, no more satisfactory means can be adopted. Could we strictly quarantine the infected houses and their occupants, or could we enforce universal vaccination, the ravages of the disease would soon be checked. Unable under the law to do either of these, Health Officer Miles carried out the most stringent measures possible, with the effect of limiting the cases during the present epidemic to less than one-half the number occurring in a corresponding period of time in 1876-77.

As we stated at the beginning of this notice, the report before us is a record of faithful and conscientious labor for which Dr. Miles deserves the thanks of the entire community. J.G.H.

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[1] Report on Smallpox. By A. J. Miles, M.D., Health Officer of Cincinnati. Cincinnati, May 8th, 1882.

Original Communications.

THE CLAIMS OF THE GRAPHIC METHOD

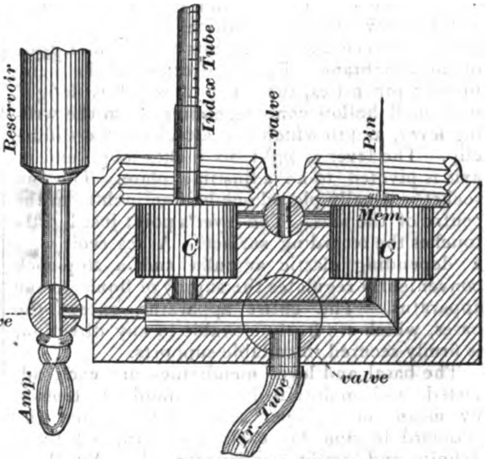
By A. T. Keyt, M. D.

No one who is conversant with the graphic method will deny its utility in physiology and clinical medicine. Nevertheless it is true that scientific sphygmography is even yet a sealed book to the great body of the profession. To be able to justly appreciate the method, its results and capabilities, requires attention to details that only the few have been willing to bestow, and hence the many who remain without intelligent judgment in regard to the claims of the new science.

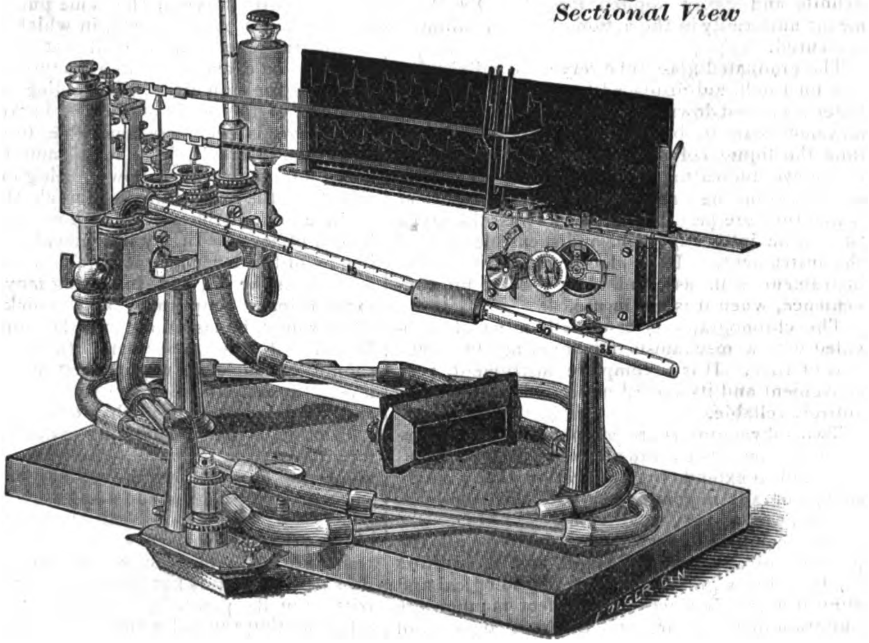
For several years I have been occupied with this study, and during the time have done much original work, and published on the subject many journal articles, and I will here say that my conviction is unqualified of the important aids afforded by the method. No more do I doubt the utility of the sphygmograph to scientific medicine than I doubt that of the microscope, or stethoscope, or thermometer.

If the reader will follow me in this article, I will endeavor to convince him by a consideration of the kind of evidence that has convinced me, that we have at hand a mechanism which fulfills all requirements, and that by its careful use we may attain results of great importance to the physiologist and physician. The evidences are furnished by a review of the principles of the mechanism and of the work it accomplishes.

The Mechanism.—The instrument of which I conceived the essential principle in 1874, and have since been assiduously improving in details of construction, has now attained a perfection quite satisfactory. (See cut.) The following brief description is reproduced.—The mechanism consists essentially of two sphygmographs of transmission and a chronograph combined in one apparatus, and all writing on the same smoked slide



Sectional View



The Compound Sphygmograph.

—the latter being regularly propelled by clock-work.

The sphygmograhps are uniform and constructed as follows: The base for receiving the movements is an oblong receptacle, closed below by an elastic membrane and opening above into a a transmission tube; the latter is of convenient length, usually twenty-five inches, and made up of alternate sections of glass and flexible tubing, and communicating by its opposite end with the vertical branch of a T passage. The horizontal branches of the T communicate each with a small chamber. Over one chamber is secured a graduated glass tube, over the other a delicate elastic membrane. The cavities and passages are filled with *pure water*, and to provide for the expulsion of air from the membrane chamber a small passage connects its upper part with the index chamber; a stop-cock opens and closes this passage. At the junction of the T is placed a three-way stop-cock, which according to its position directs the movements to the index tube or the membrane. From the center of the membrane a pin arises, the point of which is lodged in a small hollow cone depending from the writing lever, and to which it is attached by a sliding clip. The lever is light, six inches long, and its axis is pivoted to an adjustible plate. The pin socket is usually placed one-half an inch from the centre of the axis. The lever's point just lightly touches the recording surface. A reservoir with a depending elastic ampulla and a stop-cock conveniently regulates the supply of liquid to the apparatus. The entire apparatus, except the bases, which are freely movable in any direction, is firmly secured to suitable supports.

The basal and lever membranes are each adjusted and maintained at a standard tension by means of a proper screw device; and the standard tension for each is determined by a definite and easily applied formula. By these means uniformity in the action of the membranes is secured.

The graduated glass tube serves as a diverticulum for the liquid displaced from the base as the latter is pressed down upon the organ of which the movements are to be observed; and at the same time the liquid column displays the movements to the eye, indicating their form, and measuring with precion their amplitude and the pressure at which they are best developed. Thus, the index tube is an interesting and indispensible part of the instrument. (It is placed erect when the instrument is in use, and turned down for convenience, when it is not in use.

The chronograph is essentially a watch provided with a mechanism for marking the divisions of time. It is a complete instrument, very convenient and its record of seconds and fifths is entirely reliable.

Two sphygographs are conjoined in one instrument, because the arrangement is quite convenient, and so extends the application that a single sphygmograph in comparison with this combination appears of very small value.

This compound instrument answers all the purposes of any sphygmograph, and in addition is adapted to a great variety of physiological and clinical uses. It traces in a perfect manner the pulsation of the heart and different arteries, of the fontanelle, of tumors, the movements of respiration, muscular contraction, etc. By means of the index tube it exhibits these movements to the eye; by means of the chronograph it shows their exact time relations; and by means of the double arrangement it traces two movements, as of the heart and an artery, simultaneously, showing their relations to each other and securing all the advantages of such a record. It is used with great facility, and executes the work with which it is charged with extreme fidelity.—*Boston Medical and Surgical Journal*, May, 1880, p. 484.

FIDELITY OF ACTION.

Is the instrument true in its action; or does its trace faithfully represent the movement explored? As to the arterial pulse, the basal membrane pressed down and expanded over the vessel must rise or fall with every phase of its movements. These movements of the pulse communicated to the basal membrane are propagated by the superimposed liquid column to the second or lever membrane, and from the latter through the vertical pin rising from its center to the inscribing lever. The lever amplifies the movements it receives from the small membrane twelve times, and lightly touching the recording surface, makes its trace as the latter marches along. All this is very simple and would seem to leave no room to doubt that with careful management the lines so produced would be faithful reflections of the arterial pulsations. And as the arterial so the mechanism is adapted to trace other movements to which it is set.

In general, sphygmographic traces are accused of liability to deformation from (a) inertia of the lever, and (b) friction of its writing point. Marey demonstrates that in his direct sphygmograph, inertia of the lever ordinarily exerts no appreciable deforming influence, by comparing its traces with those of the same pulse taken by his *microscopic sphygmograph*, in which the excursion of the lever was so small that its traces required to be examined with a magnifying glass to perceive the sinuosities, and finding identity in the form of the traces of the two instruments.

My lever is even less amenable to this objection than Marey's, in that its amplification is much less, the point of power being one-half an inch from the axis, while in Marey's the distance is three or four times less, with nearly the same length of lever. In my instrument the effect of inertia of the lever in tracing all ordinary movements must be *nil*, and in tracing movements of extraordinary amplitude and quickness, the effect would be less than in other instruments. Besides if the movement to be inscribed should be such as might elicit inertia of the lever, the amplification can be readily reduced and the deforming effect obviated.

Friction of the writing point is operative in deforming a trace only when the lever is carelessly allowed to press too heavily against the recording surface. In my instrument smoked glass is chosen chiefly for the reason that the writing point glides over this surface with the least possible resistance. Anyone can satisfy himself that the play of the lever is not impeded or modified by friction of its point, by watching its movement when writing the pulse and then when playing in

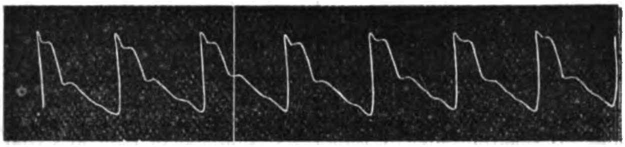


Fig. 1. Radial pulse traced by Marey's sphygmograph.

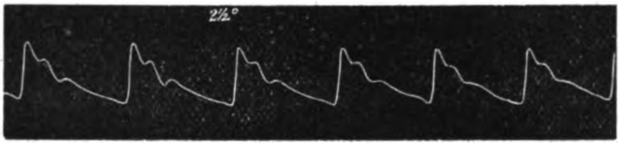


Fig. 2. Same pulse traced by Keyt's.

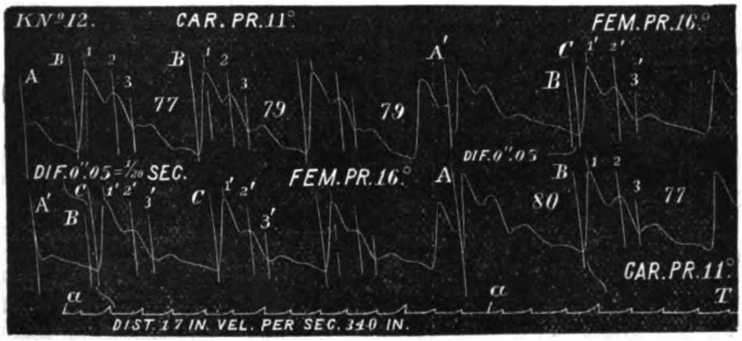


Fig. 3. Simultaneous traces of the carotid and femoral pulses, showing their time-relations and other features; taken by reversal for the purposes of proof. Reproduced from a series of simultaneous traces of the heart and carotid, and of different arteries, two by two.

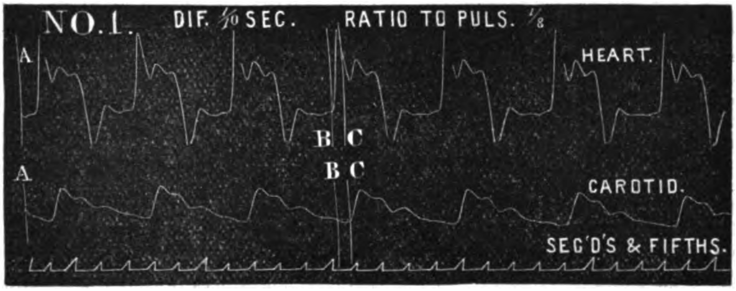


Fig. 4. Simultaneous traces, from another subject, of the heart and carotid, from a series showing the time-difference between the pulsations of the heart and those of the different arteries.

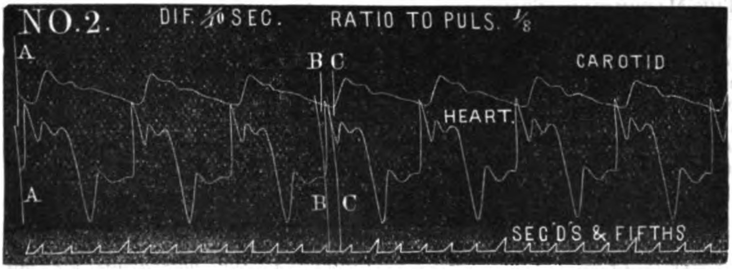


Fig. 5. The same as Fig. 4, taken by reversing the instruments.

free air, and so proving that the play is alike under both conditions. Under proper care then, friction of the lever is ineffectual as a deforming factor.

The above accusations pertain to my instrument in common with others, but mine must needs be defended against a third, namely, inertia of the liquid column. If the transmission tube were very long it is admitted that this factor would have some effect.. Marey encountered this in using long tubes of lead filled with water in his experimentation on the horse, which induced him to substitute air for water as a transmission medium, and by air he achieved his renowned results. Nevertheless, in my instrument the mechanism is such that the inertia of the liquid column is reduced to an inappreciable minimum. With the column of prescribed length, supported and restrained between elastic membranes, one at either end, lightly gliding in limited excursion along smooth passages, it conveys the movement practically as truly as would a metallic rod, reaching directly from the pulse to the lever.

THE TRACES.

But the effectual proof that the last and all factors have little or no deforming influence rests in the character of the traces the instrument gives. Our ideal of the form of the trace of the radial pulse comes through Marey's direct sphygmograph. The best trace of this instrument is probably very nearly a perfect representation of the radial pulse. My instrument gives the same identical form. Some years ago, when my sphygmograph was less perfect than now, I made some comparative experiments—tracing the radial pulses of the same subjects with the two instruments[1]. Examples of the results are shown in fig. 1, by Marey's, and fig. 2, by Keyt's.

Of these experiments Marey says: "The author publishes an interesting series of compartive traces obtained on the same subjects with his instrument and mine. One sees there that the traces of the American instrument have undulations a little stronger, these, however, do not sensibly alter the form of the traces of which they seem to exaggerate the sinuosities without introducing there accidental vibrations.[2]"

Other and stronger testimony of this distinguished authority I could add as to the correctness and excellence of my traces; but these also speak for themselves. Then the principles and the work of the mechanism insure and prove the fidelity of its action.

THE MANOMETRIC TUBE.

An indespensible part of the instrument is the graduated glass tube. This serves as a diverticulum for the liquid, measuring the amount displaced and consequently the degree of expansion of the basal membrane. It shows the pulsations to the eye and indicates their amplitude and the pressure at which they are best developed. Thus it is, in a sense, a measurer of the arterial resistance, and as such is probably superior to any device yet employed for the purpose. Also it serves as a gauge for adjusting the tension of the basal membrane, and finally, by the indications of this tube the instrument is set in the best position for securing the best traces.

(This tube, with its basal receptacle, is virtually the sphygmometer of Hérisson, first invented by that physician in 1834, and afterwards re-invented by Scott Alison in 1856, and again by myself in 1874.)

UNIFORMITY OF ACTION.

The instruments constructed alike, with the same chambers and bores, transmission tubes of the same calibre and length, index tubes of the same graduation, rubber membranes of the same quality and thickness, and these adjusted at the same tension and sensibility by means of devices provided, must yield uniform action and results. And this is so. Successive traces of the same pulse by the same instrument, are not more alike in form than traces of the same pulse by two instruments. In fig. 3, the carotid and femoral pulses were traced each by two instruments; also in figures 4 and 5, the pulsations of the heart and carotid pulse were traced by reversal. It is seen how very similar are these traces of the two instruments, and notwithstanding when they were taken my adjusting devices had not been perfected.

MULTIPLICITY OF USES AND ADAPTATIONS.

This instrument traces pulsations of the heart, (see numerous cardiograms) by placing the tube over the organ at point of strongest impulse, and then proceeding as in tracing the arterial pulse. It traces any accessible artery. (See sphygmograms of different arteries.) It traces the pulsations of the fontanelle. (See fig. 5.) It traces pulsating tumors. (See fig. 7.)

It is converted into a *pneumograph* and traces the movements of respiration merely by confining the base to the chest wall by means of an inelastic belt round the thorax, the trace ascending in inspiration and descending in expiration, (see figures 9, 10 and 11,) or by connecting the transmission tube with a flattened elastic tube, surrounding the chest and filled with water, the line will be reversed, rising in expiration and falling in inspiration, as in Marey's pneumograph.

It is converted into a PLETHYSMOGRAPH (*of Mosso*) and traces the totalized pulsation of the hand and forearm, simply by connecting its transmission tube with an apparatus of displacement containing these parts. (See fig. 11.)

It traces muscular contractions and evidently is adapted to trace any and all the palpable movements of the organism. It is well adapted to experimentation on animals, (see figures 12 and 13) and easily made to function as a *kymograph*. It performs well on the schema.

TAMBOUR POLYGRAPH.

If for any reason it should be deemed desirable to employ air instead of water as a transmission medium, the substitution may be made and without further change traces obtained, if the movements are not too feeble. (See fig. 14.) Better results, however, are secured

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[1] See New York Medical Journal, January, 1876.

[2] Translated from La Circulation du Sang p. 701,

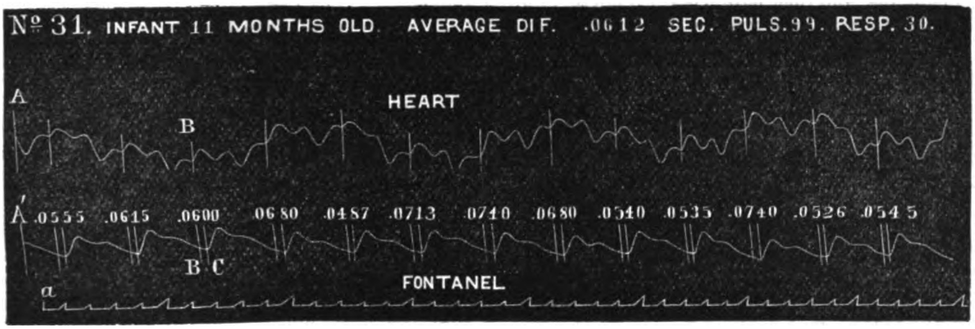

Fig. 6. Simultaneous traces of the heart and fontanelle from a child, aged eleven months, showing the form and time-relations and modifications by the respiration of these movements.

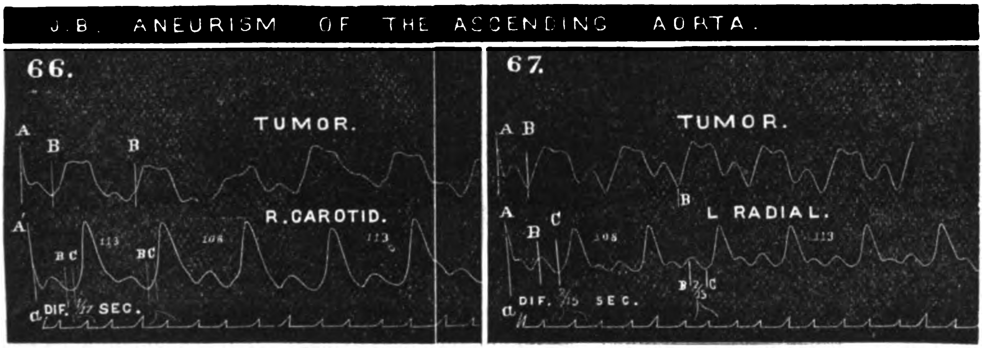

Fig. 7. Simultaneous traces of the pulsations of an aneurismal tumor (ascending aortic) and of the carotid and radial arteries, respectively, showing abnormal delay of the arterial pulses on the pulsations of the tumor..

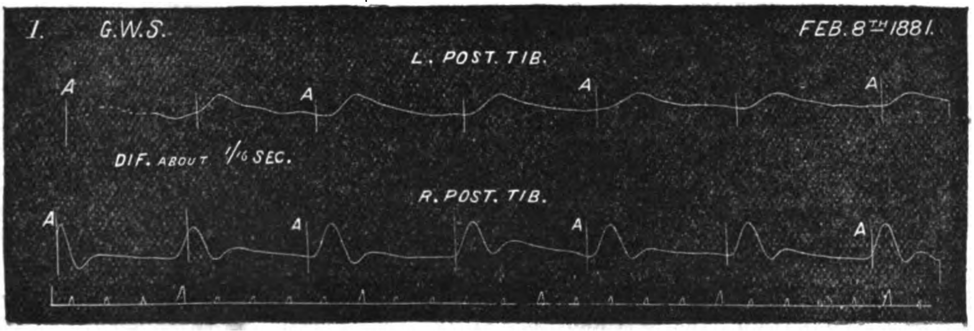

Fig. 8. Simultaneous traces of the two posterior tibial pulses in a case of left popliteal aneurism, showing characteristic deformation and delay of the pulse below the aneurism.

by employing a larger inscribing membrane. A tambour of suitable circumference is simply fixed over the chamber that was covered by the small membrane, and then with a vertical pin of proper length, connection is made with the lever and the apparatus is ready for work as a *tambour polygraph*. Fig. 15 shows traces so obtained.

RECORDING SURFACES.

Thin glass slides about five and three quarter inches long and width to suit, evenly smoked, are found, all things considered, the best form of writing surface for the great majority of work that one desires to do. But for long continuous lines of traces the lever may be turned upon a revolving cylinder covered with smoked paper, or upon a long band of paper made to advance by rollers, in the latter case the writing done with a suitable pen fixed on the lever and charged with ink. The instrument adapts itself readily to any form of recording surface found in physiological laboratories.

MULTIPLE SIMULTANEOUS INSCRIPTIONS.

The crowning adaption is that by which the instrument admits of combination for the purpose of tracing two or more movements at the same time. The instruments are readily combined, in any number chosen, so as to write upon the same recording surface, but for convenience, and as answering the greater number of purposes, two are combined. These with accompanying chronograph and recording mechanism make a compact and convenient apparatus, that one is able to manage himself in clinical and much physiological work. Thus combined, the mechanism has many uses and brings to our knowledge numerous and varied important facts. A wide and promising field has been opened up by multiple simultaneous sphygmography. The cuts introduced show many examples of this kind of work. Marey's and mine are the only mechanisms by which this method can be practiced, and of their comparative merits we will speak soon.

Among the results already secured by this method are determinations of the time-differences between the pulsation of the heart and different arterial pulses, and between the arterial pulses themselves, and consequently the velocity of the pulse-wave along the trunk and branches of the arterial tree, and the duration of the ventricular presphygmic interval[1]; the variations of these time-relations in health, and some abnormal variations in disease. The facts so gathered are valuable in themselves and illustrate the kind of work that is easily done by the employment of a proper apparatus.

It is in multiple traces that sphygmography is able to show its strength. Single sphygmography has been in vogue since 1860, and although assiduously worked by skillful men, who have published their results, it has contributed comparatively little of real value; while the multiple method, only recently made practical, has already achieved a record of present utility and future promise. The one gives only a simple inscription of the form of the pulse; the other gives this, and besides gathers all the main facts pertaining to the movements of the heart and arteries, or other movements to which it is applied.

EXPLORATORS—BASES.

The devices for first receiving the movements are termed by Marey "*Explorateurs*." I usually designate them as "bases." Any form of receiving base circumstances may call for readily adapts itself to my apparatus. The form shown in the cut has been settled upon after many experimentings and provings, as the most eligible for clinical purposes, and at the same time as well answering for the greater part of physiological researches. A base of circular form answers well for receiving the movements of the heart, also of tumors, and the respiration, but after trial one finds in it no advantages outweighing that of having the two bases precisely alike. However, as just stated, for certain investigations bases of any form indicated may readily be attached.

CHRONOGRAPH.

No registering apparatus for physiological and clinical work is complete without an accompanying chronograph, and indeed this is an indispensable attachment. The rate of progression of the recording surface is always an important element to be known and considered. The best constructed movements are liable to variations of speed, yet it is easy to obtain a movement whose variation is so small as to be of little moment if the progression is measured. This the chronograph does and notes every variation. The chronograph of my apparatus is neat and accurate and fulfils its office with entire satisfaction. It is always running during experimentation and traces its fifths of seconds on the lower part of the slide with every run of the same. Marey expresses himself much pleased with this principle, and as intending to add it to his new polygraph.

CONVENIENCE OF MANAGEMENT.

The construction of the apparatus and the kind and variety of its work, all go to set forth its special convenience. It is portable, easily kept in order, readily adjusted, and is applied with the greatest facility, and without the least annoyance to the subject.

COMPARISON BETWEEN MAREY'S NEW POLYGRAPH AND THE COMPOUND SPHYGMOGRAPH.

Marey, seeing the advantages to accrue from such a combination, worked long to devise an apparatus that would trace the heart and pulse simultaneously on man, and finally produced his new polygraph, and with which he appears well satisfied. It is on the tambour principle and consists of a *sphygmographe à transmission* and a cardiograph, filled with air and arranged to write on a revolving cylinder. With this apparatus the author has done very good work. Fig. 16, reproduced from his book on the circulation, is an example of its traces. As before stated, Marey adopts my chronograph, and I in turn have profited by adopting his device for starting and stopping the

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[1] See N.Y. Medical Journal, July, 1877, and Feb., 1878.

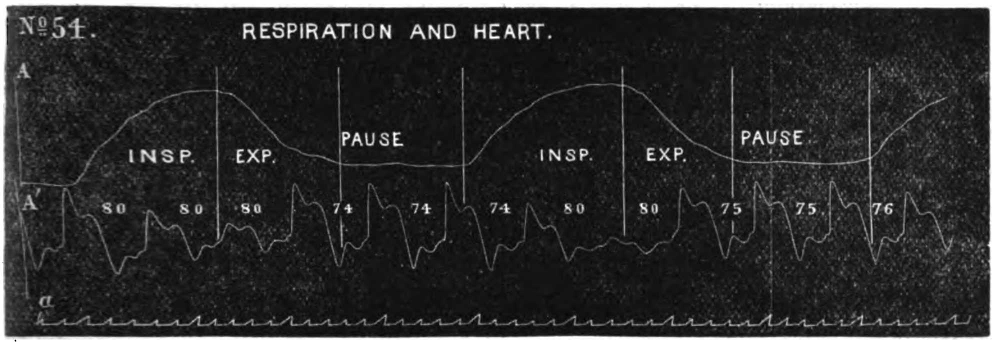

Fig. 9. Simultaneous traces of the respiration (one base used as a pneumograph) and pulsations of the heart, showing the influences of the respiration on the cardiac pulsations.

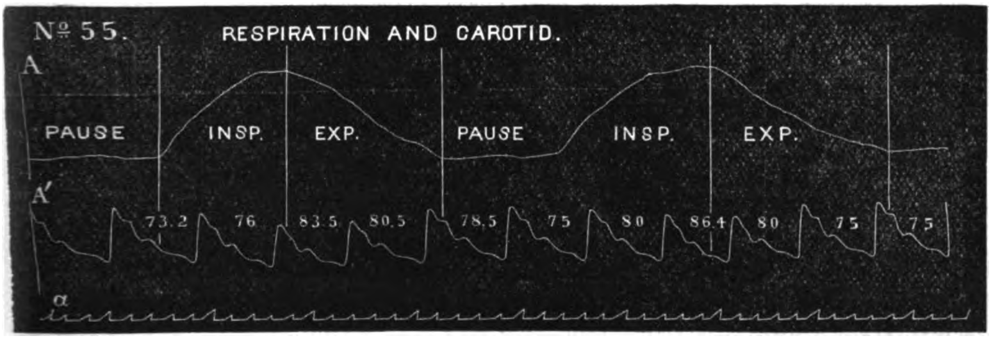

Fig. 10. Simultaneous traces of the respiration and carotid pulse, showing the influences of the former on the latter.

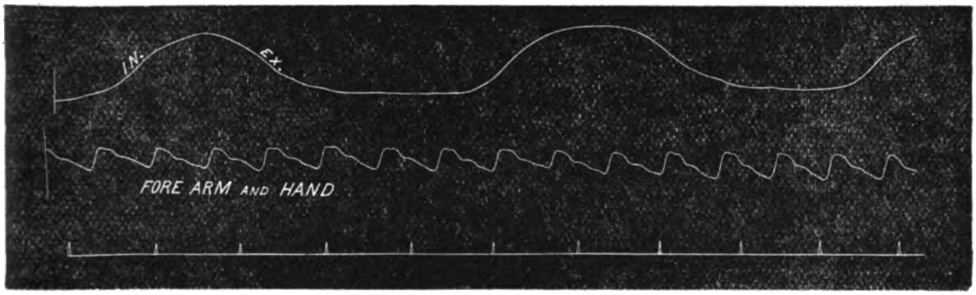

Fig. 11. Trace of the totalized pulsation of the hand and forearm, obtained by converting the compound sphygmograph into an apparatus similar to Mosso's plethysmograph; also the respiratory trace received at the same time.

Fig. 12. Trace of the pulsations of a toad's heart.

movement, by displacement of air in a rubber tube held in the mouth. This adds much to the convenience of management, in that it leaves the hands free for manipulating the explorators, enabling one to successfully experiment on himself or others without an assistant.

It is manifest that the compound sphygmograph has certain advantages over the new polygraph aside from the question of the superiority of water or air as a transmission medium. Its adaptability to trace a pulsation or movement in any situation, the uniformity and consequently reversibility of its bases, the showings and indications of its index-tubes, and the facilities afforded for the graduation of its membranes to the same sensibility, are distinctive and advantageous features which pertain to the one and not to the other.

As to which is the better transmission medium, water or air, I have before proved by comparative experiments[1] that water conserves better than air the force of a movement, and hence is more efficient and available, especially for feeble movements and delicate details. While this is true my experiments also proved that air transmits more rapidly than water, and with equal fidelity the stronger movements.

So while the polygraph is reliable for stronger movements, the compound sphygmograph is available for weaker as well as stronger, and this important advantage unites with others named and implied in commendation of the "American instrument."

EXAMPLES OF EXPERIMENTS AND RESULTS.

The reader is asked to examine the illustrations one by one; for they are the permanent records of fugitive events, written as they transpired, and each teaches its lessons. A few experiments are here described.

Arterial tension.—When the mean blood-pressure in an artery is stationary the *ligne d'ensemble* of its sphygmogram is horizontal; when the blood-pressure rises the line ascends; when it falls the line descends. If, whilst the radial artery of one arm is being traced, the other arm be carried above the head the line of the trace will be seen to ascend soon after the moment of elevation. (See Fig. 17.) The increase of blood pressure from elevation of one arm, distributed throughout the arterial system, must be very small in the opposite radial, yet the sphygmograph is sufficiently sensitive to take distinct cognizance of it.

Vaso-motor action.—Constriction of the capillaries is known to be produced by reflex excitation, with the effect of increasing the blood pressure in the near arteries. Accordingly, if whilst an artery of an extremity, as the dorsalis pedis, is being traced, the opposite foot be brought suddenly in contact with a lump of ice, the line of the sphygmogram will from that moment begin to ascend. (See Fig. 18).

Effect of arterial tension on pulse-wave velocity. If the two radial pulses be first traced simultaneously, placed at the same level, the traces will be synchronous; then if one arm be raised and the pulses traced again the trace of the elevated pulse will be delayed on the other. (See Fig. 19.) The experiment proves that the velocity of the pulse-wave increases and diminishes with the arterial tension.

Negative effect of variation of pulse frequency on pulse wave velocity.—If in a subject with circulation quiet the carotid and dorsalis pedis pulses be traced simultaneously, and then after active exercise the subject returns with circulation accelerated and immediately the same pulses are traced again, the time-differences before and during the pulse-accelation will be found equal. (See Fig. 20.)

Diminution of cardio-arterial time differences with increase of pulse frequency.—Conditions of experiment the same as in last, only the heart and an artery—the carotid—are traced simultaneously before and during pulse-acceleration, and with the effect of proving a marked abbreviation of the cardio-carotid interval under increase of pulse frequency. (See Fig. 21.)

Mitral regurgitation.—In mitral insufficiency, owing to the unimpeded reflow of the blood into the auricle, it would be expected that the systole of the ventricle would require a longer time than in normal conditions to raise the intra-cardiac blood pressure to the point of forcing the aortic valves, and consequently the arterial pulses, notably the carotid would be abnormally delayed on the pulsation of the heart. Traces of cases of mitral regurgitation confirm this prevision. Figure 22[1] is from a boy, aged nine years, whose case, as manifested during life and found post-mortem, was a typical one of mitral insufficiency. The traces show abnormally long cardio-carotid, cardio-radial, and cardio-posterior tibial intervals; the first measuring one-eighth second, which is more than double what would be normal to the subject had no such mitral lesion existed.

Heavy aortic valves.—When the aortic valves become changed, whatever the pathological state, so that their elevation becomes difficult it would be expected that such condition would signal an increase of the cardio-arterial interval, and this is proved by actual cases. In Fig. 24[2] the cardio-carotid interval is one-fourth second, *about three times the normal*, and these traces were from a case in which the aortic valves were deformed and loaded with immense calcareous masses.

Aortic regurgitation.—In large insufficiency of the aortic valves the blood is launched into the aorta immediately upon the contraction of the ventricle, instead of after an interval as when the valves are intact. Hence the fact shown in Figure 23 of an abnormally short cardio-carotid interval in a case[3] of aortic insufficiency.

Aneurism.—Typical deformation and retardation of the pulse below an aneurism is signaled in Figure 8; and retardation without characteristic deformation in Figure 7.

I will not here multiply illustrations, but trust enough has been said and shown to prove the availability, precision and fertility of the graphic method skillfully practiced with an effective apparatus.

And if all here claimed is true, the compound sphygmogragh is the instrument *par excellence*,

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[1] See New York Medical Record, Oct. 30, 1880, p. 479.

[1] Lancet and Clinic, April 19, 1879.

[2] New York Medical Record, June 4, 1881.

[3] Boston Medical and Surgical Journal, Sept. 30, 1880.

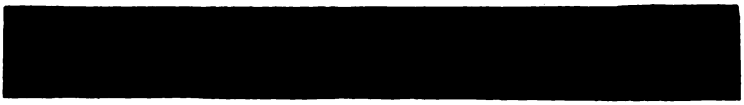

Fig. 13. Cardiogram from the chest-wall of a six-weeks-old kitten; pulsations 380 per minute, and modified as seen by the respiration.

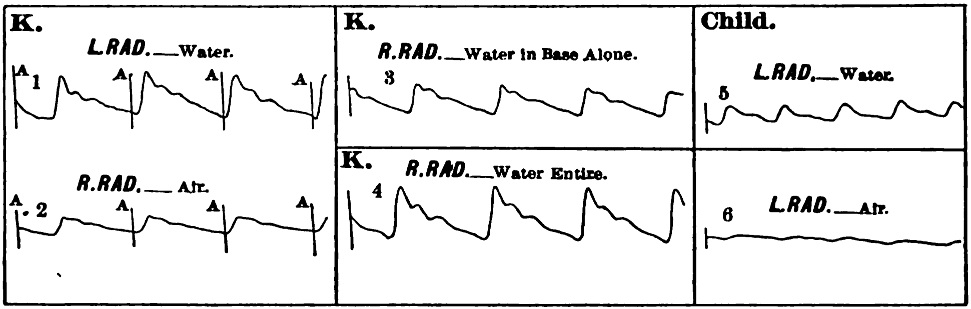

Fig. 14. Comparative traces with water and air as media of transmission, showing that water transmits the pulse with greater force and better definition than air.

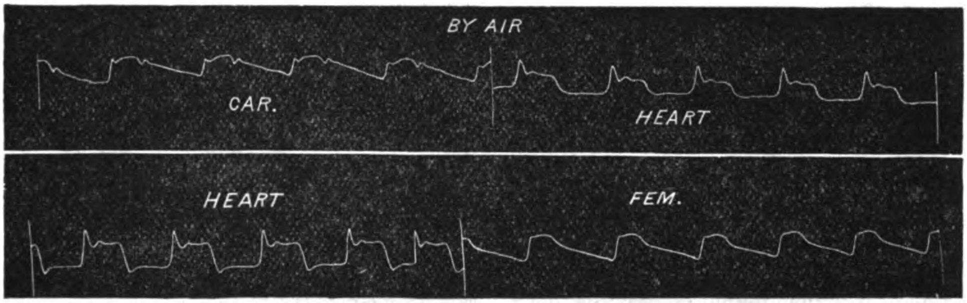

Fig. 15. Traces singly of the heart, of the carotid, and of the femoral pulse with air; a writing tambour substituted for the small membrane.

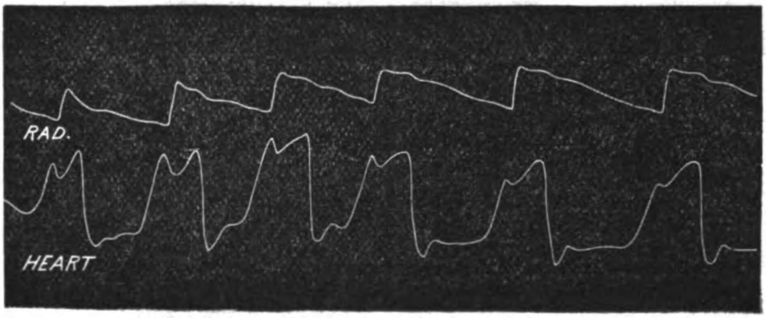

Fig. 16. Simultaneous traces of heart and radial pulse after an effort (forcible expiratory effort with glottis closed); taken with Marey's new polygragh. Reproduced from the author's new work on the circulation of the blood.

which should be found in every physiological laboratory, every hospital, and in the hands of every scientific physician.

Any one desiring to pursue the subject further is referred to my publications, of which the following is a list:

1. The New Sphygmograph.—Paper read before the American Medical Association, May, 1875: abstract in *N. Y. Medical Record*, May 22, 1875; published in full in *N. Y. Medical Journal*, January, 1876; *Cincinnati Clinic*, April 29, 1876.

2. Cardiographic and Sphygmographic Studies; with demonstrations of the Form, Relationship and Chronometry of the Cardiac and Arterial Movements, and interpretation of the graphic curves.—*N. Y. Medical Journal*, July, 1877, and *Cincinnati Clinic*, Aug. 25 and Sept. 1, 1877.

3. Cardiographic and Sphygmographic Studies; demonstrating the time-differences of pulse-wave between different arteries; duration of the heart-carotid, and presphygmic intervals; time relations of secondary waves, and the velocity of pulse-wave along different arteries.—*N. Y. Med. Journal*, February, 1878; *Cincinnati Clinic*, April 13, 1878.

4. The Human Heart's Revolution, and Relation to it and each other of Ventricular Systole and Diastole.—*N. Y. Med. Journal*, July, 1878; *Cincinnati Lancet and Clinic*, Aug. 31, 1878.

5. The Velocity of the Pulse-Wave and Duration of the Ventricular-Carotid, and Ventricular-Presphygmic Intervals in Young Children.—*N. Y. Med. Journal*, July, 1878; *Lancet and Clinic*, Aug. 31, 1878.

6. Observations on Bertha Von Hillern's Pulse. *Cincinnati Clinic*, April 20, 1878.

7. O'Leary's Pulsations.—*Lancet and Clinic*, July 13, 1878.

8. The Pulsations of the Fontanel; their Form and Mechanism, and Relations to the Pulsations of the Heart and Arteries and Movements of Respiration.—*Lancet and Clinic*, Sept. 21, 1878.

9. The Influence of Muscular Exercise upon the Arterial and Cardiac Pulsations.—*Lancet and Clinic*, Nov. 2, 1878.

10. The Sphygmographic Indications of Heart Disease — Mitral Regurgitation.—*Lancet and Clinic*, March 22, 1879.

11. The Sphygmographic Indications of Heart Disease—Aortic Obstruction.—*Lancet and Clinic*, April 19, 1879.

12. The Influence of the Respiration upon the Form, Rhythm and Succession of the Cardiac and Arterial Pulse-Curves.—*Lancet and Clinic*, June 7, 1879.

13. The Sphygmographic Indications in Aneurism.—*N. Y. Med. Record*, Nov. 29, 1879. page 507.

14. Enormous Delay of the Pulse.—*N. Y. Med. Record*, Feb. 14, 1880, page 169.

15. The Presphygmic Interval, or time required to start the arterial pulse after the beginning of the systole of the ventricle.—*Boston Med. and Surg. Journal*, April 29, 1880, p. 409.

16. The Compound Sphygmograph. —*Boston Med. and Surg. Journal*, May 20, 1880, p. 484.

17. The Influence of Aortic Aneurism and Aortic Insufficiency, singly and combined, on the Retardation of the Pulse.—*Boston Med. and Surg. Journal*, Sept. 30, 1880, p. 315.

18. Experiments to determine the Relative Merits of Water and Air as Media of Transmission for Sphygmographs.—*N. Y. Med. Record*, Oct. 30, 1880, p. 479.

19. A Contribution to the Cardio-Sphygmography of Aortic Obstructive Lesions.—*N. Y. Med. Record*, June 4, 1881, p. 621.

20. The Mechanism of the Cardiac and Arterial Traces, and some of the teachings of Cardio-Sphygmography.—*Boston Med. and Surg. Journal*, Sept. 29, 1881, p. 293.

21. An Experiment in Cardio-Sphygmography, in which the heart, carotid, femoral, radial and posterior tibial arteries, and the corresponding time, were traced simultaneously; with reproduction of the inscriptions obtained.—*New York Archives of Medicine*, June, 1882.

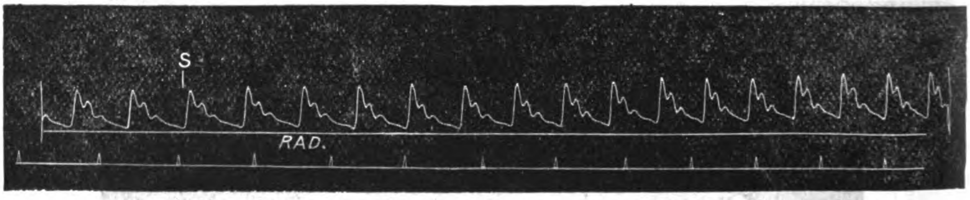

Fig. 17. Trace of the radial pulse showing ascention of the general line after elevation of the opposite arm.

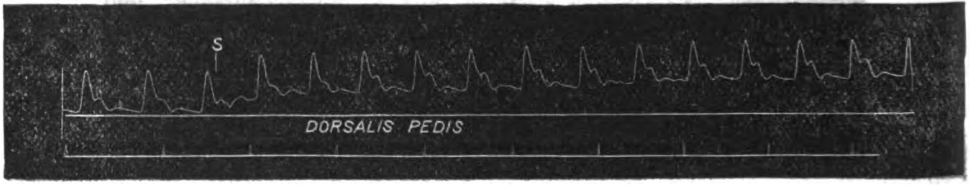

Fig. 18. Trace of the dorsalis pedis pulse, showing ascension of the line after application of ice, at the moment S, to opposite foot.

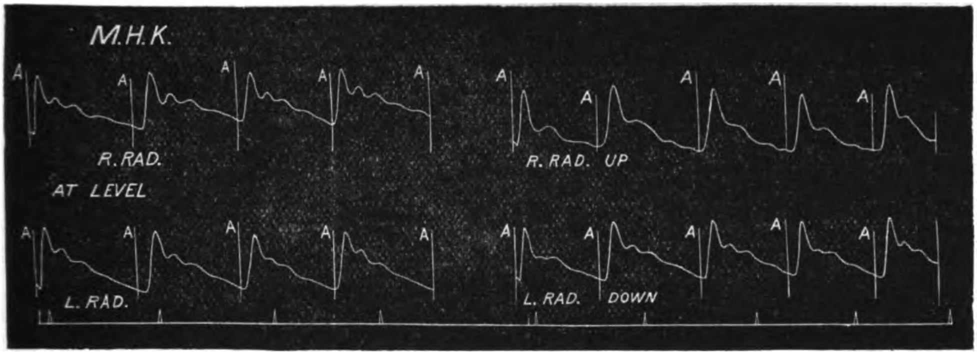

Fig. 19. Simultaneous traces of the two radials first at the same level, and then with one arm elevated, showing synchronism of the pulses under the first condition, and delay, though slight, of the elevated pulse on the other, under the last.

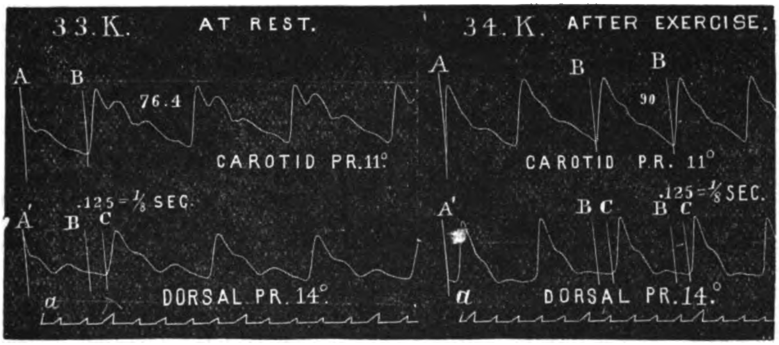

Fig. 20. Simultaneous traces of the carotid and dorsalis pedis pulses before and after active exercise, showing the same time-difference, one-eighth second, under both a quiet and an accelerated circulation.

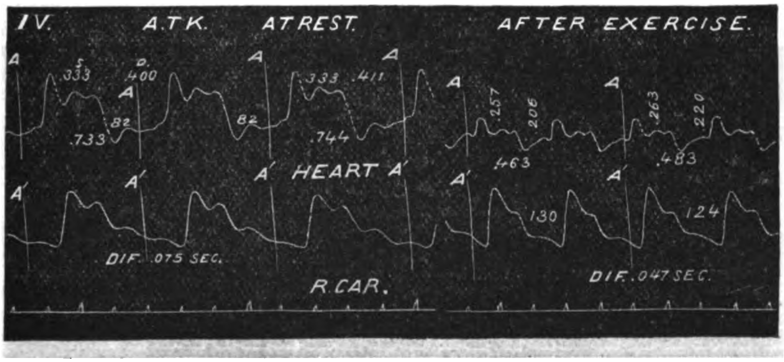

Fig. 21. Simultaneous traces of the heart and carotid before and after active exercise, showing diminution of the cardio-carotid interval under acceleration of the pulse, and other appertaining facts.

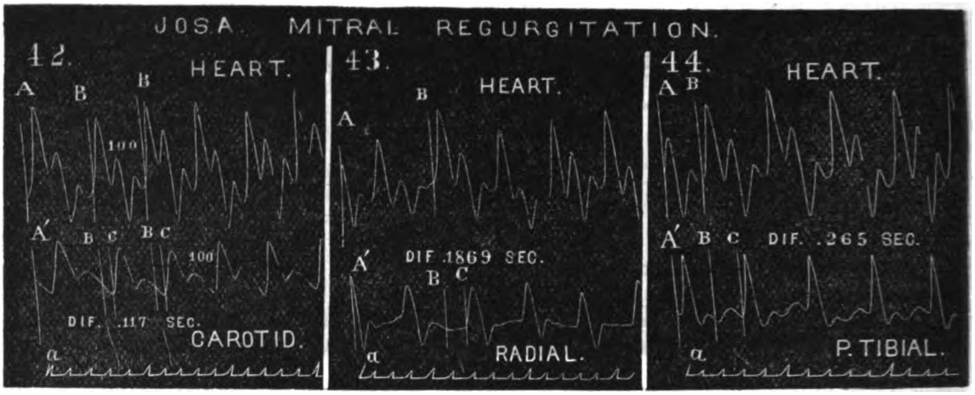

Fig. 22. Simultaneous traces of the heart and carotid, heart and radial, and heart and posterior tibial pulses in a boy, aged nine years, affected with mitral insufficiency, as proved post-mortem; the traces showing abnormal delay of the arterial pulses on the pulsation of the heart.

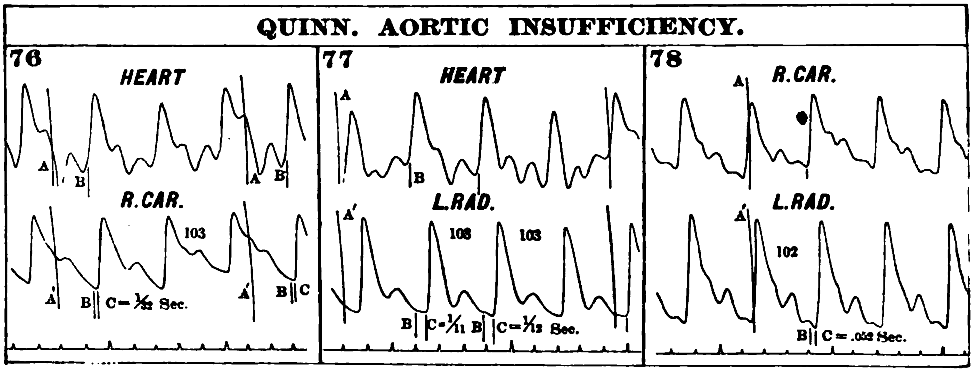

Fig. 23. Simultneous traces in a case of large aortic insufficiency showing abnormal shortening of the cardio-carotid and cardio-radial intervals.

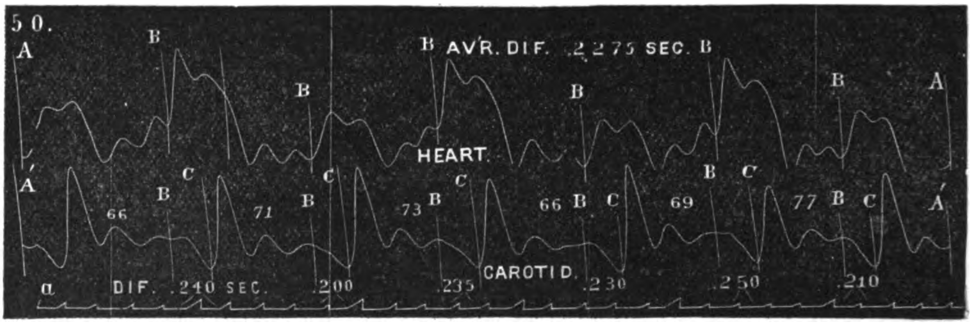

Fig. 24. Simultaneous traces of the heart and carotid pulse in a case in which the aortic valves were deformed and loaded with immense calcareous masses, showing great delay—one-fourth second—of the carotid pulse on the pulsation of the heart.

REMARKABLE CASE OF SACCULATED OR OF CIRSOID ANEURISM OF THE SECOND INTEROSSEOUS BRANCH OF THE DEEP PALMAR ARCH TREATED BY EXCISION.

Read before the College of Physicians, Philadelphia Pennsylvania, May 3, 1882.

By JOHN B. ROBERTS, M. D.
Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy.

The specimen which I exhibit this evening and its accompanying history are interesting, I think, because of the extreme rarity of the condition. I know of no similar case reported; but I have not had an opportunity to search for such in medical literature, because the operation was performed only a few hours ago. The specimen is fresh, and is exhibited now before the appearances have been changed by any preservative fluid.

Dr. Charles H. Thomas requested me a few days ago to assist him, at an early date, in operating upon a tumor of the hand in a boy, aged sixteen years. From his earliest childhood he had been under Dr. Thomas' observation, and had had a small elongated tumor upon the *dorsal* surface of the first phalanx of the left ring-finger, while in the *palm*, at the junction of the bases of the middle and ring-fingers, was a larger swelling. These were considered masses of dilated veins as they had a spongy feel, and at times showed a bluish color. There was no very definite connecting band of swelling between the dorsal and palmar enlargements. No special pain was experienced unless the parts were struck, and no marked growth occurred. Hence the child's mother was advised to have nothing done. As the boy grew, hand and tumor increased, but held the same relative proportions. When the boy began work in a machine-shop, the skin became thickened and soiled, and the bluish tint was no longer discernable.

About two months or less ago, the growths seemed to enlarge and to be accompanied by considerable pain, and Dr. Thomas advised the use of a compress in the palm and a bandage around the finger. This the boy wore at nights, and usually from Saturday to Monday morning, when he returned to his work. Recently there was noticed pulsation in the palmar tumor and a lobulated feel; and Dr. Thomas feared that an arterial aneurism existed.

When I examined the boy last evening, I found on the back of the third finger a hard fibrous-like tumor, as large as a watermelon seed, with the long diameter corresponding to the length of the phalanx. In the palm was an illy defined swelling covered with thick skin, very sensitive to pressure, and occupying about the area of a silver half-dollar. No swelling was evident connecting the two tumors. On the ulnar side of the palmar mass moderately distinct pulsation could be felt, which quickly stopped when the radial artery was compressed at the wrist, but merely decreased in force when the ulnar was pressed upon with the finger. No pulsation was felt in the dorsal tumor.

The boy had severe pain even when no pressure was made upon the growth in the palm.

I gave it as my opinion that the growth was an arterial angeioma connected with the second interosseous branch of the deep palmar arch, having anastomoses with the digital branches of the ulnar artery. Dr. Thomas considered it possibly this, but probably a sacculated aneurism. His diagnosis has proved to be the more correct.

It was determined to employ the Esmarch elastic bandage, and to make a free incision over the tumor and dissect it out, whether it be angeioma or aneurism. As Dr. Thomas was disabled by a painful boil on his right hand, he requested me to operate. The boy was etherized and the elastic bandage applied.

I made an incision from a point a little in front of the superficial palmar arch to the commissure of the fingers, and came upon a mass of fat and small vessels, in the centre of which was a bluish nodule, resembling larger vessels containing blood not driven out by the elastic bandage. Keeping close to the skin, and going down to the sheaths of the flexor tendons, I dissected the mass free. Lying alongside of the palmar interosseous muscle going to the ring-finger (2d interosseous) we saw a comparatively large vessel which seemed to be the main feeder of the mass. I then extended my incision, making a straight cut along the side of the ring-finger, dissected up the skin, and enucleated the hard nodule lying on the back of the first phalanx. This seemed connected with the other mass by some fibres or small vessels, and both were removed as one piece. The wound was then plugged with dry muslin to stop the general oozing that occurred after removal of the bandage, and a tight bandage applied. No ligatures were required, because my incisions were made at a distance from the tumor.

Dissection of the palmar mass showed that I had removed a small body, about three-quarters of an inch in diameter, containing clotted blood, and surrounded by adipose tissue and nerves. Small collapsed vessels in large numbers may perhaps be found in this adipose tissue by microscopic examination. Only a few larger ones were recognizable by ocular inspection because of the absence of blood from the interior. The tumor as is seen on the plate, consists of three lobules of rather unequal size, arranged somewhat as a trefoil. The largest one of them, which has been punctured, allows the escape of soft clot; this sac is about one-half an inch in diameter. The three sacs seems to be separate, because the head of a pin introduced into one does not pass into the others. The two smaller sacs or lobules are hard, as if the clot was old. One has been laid open, and shows a white centre, or nucleus, of cartilaginons consistence surrounded by a layer of red clot. On the surface of this three-lobed tumor runs a nerve, which probably was the seat of pain from pressure, and parallel to it is a small artery. Both of these become lost in the mass, at the upper end of the tumor, which was thought to contain the main supply of the aneurism, and around which a string was tied and left for identification.

The tumor from the back of the finger is hard, and on section shows an irregularly colored red surface. I believe the tumors, therefore, to be small sacculated aneurisms evidently allied to or identical with the variety called cirsoid aneurism. The one on the back of the finger and the two smaller lobules in the palm are undergoing cure by coagulation, induced in the dorsal one undoubtedly by the pressure from the bandage used at intervals during the last six weeks or two months.

If the diagnosis had been more certain as to aneurism, I believe that digital compression of radial and ulnar arteries, or the use of an Esmarch elastic bandage to the forearm, would have been proper treatment before excision was attempted.

The early period of life (about three years) at which the trouble was noticed primarily renders it probable the aneurisms were not originally traumatic. It is possible, I suppose, that the vessels of an arterial angeioma may have become so dilated as to resemble these multiple aneurisms.

The similarity to cirsoid aneurism is certainly very great, though there are some points which differ somewhat from the usual clinical history of these growths.

After the reading of the preceding paper, Dr. W. W. Keen called attention to the danger of using coagulating agents in such cases, and spoke of a case of traumatic origin he had seen in consultation, in which a few drops of Monsell's solution had been injected into the aneurismal sac, and gangrene had followed, necessitating amputation of the hand. He thought compression of the radial and ulnar arteries would probably have accomplished a cure, and the risks of an operation would have been avoided. With regard to the small tumor on the dorsal surface of the ring-finger, he thought it unlikely to be an aneurism. Nothing short of a microscopical examination would determine its nature.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of May 15th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*	W. H. WENNING, M.D., *Secretary.*

DR. HOTTENDORF read the following essay on

Pilocarpine in the Treatment of Scarlatina and Diphtheria.

Pilocarpine, the active principle from jaborandi herb, has been highly lauded (by some medical writers) in the treatment of diphtheria. I have recently made use of the remedy and tested its merits in ten different cases, of which three were affected with diphtheria, four with scarlatina and diphtheria, and three with scarlatina. The pilocarpine muriate was used alone in some of these cases, in others it was given in combination with pepsin. The usual dose was one-fortyeighth of a grain for children, one-twentyfourth of a grain for adults. This was given every hour in the commencement of the disease and during the height of the fever; later on, when the symptoms became more favorable, the remedy was given every two or three hours.

Pilocarpine acts as an active and powerful diaphoretic and sialagogue, and its latter physiological action undoubtedly promotes the liquefaction of diphtheritic deposits. The children take the medicine readily; never have I seen a child refuse the same, whereas quinine, even if combined with the syrup or aromatic elixir of licorice, is sometimes badly taken, or again ejected from the stomach. In all my cases, small quantities of good native wine, either Delaware or Catawba, were recommended; for children two to four teaspoonfuls, diluted with water or sweetened water, was given every hour or two; adults took twice or thrice that amount. Some of my small patients obstinately refused to take stimulants of any kind, either in the shape of wine, beer or brandy. The combination of pilocarpine with pepsin is beneficial where there is anorexia or gastric irritability. Lemonade was freely allowed to all patients, the acid drink was generally relished. Locally, in the diphtheritic cases, a saturated solution of chlorate of potash was used as a gargle frequently; in small children the solution was applied with probang or long camel's hair brush. In Case X the potash solution was afterwards changed for one of carbolic acid and sulphate of zinc, ten grains of the former and fifteen grains of the latter to the ounce of water. In none of my patients have I observed anasarca or other sequelæ.

The first case was one of diphtheria and scarlatina. John G., aged seven years, a boy of previous good health, was taken unwell on October 25th of last year. I saw him on the 27th. The symptoms are the following: The boy has a high fever; a scarlet-colored rash is observed over the greater portion of his body; he coughs and complains of pain in his head and throat. Submaxillary glands are enlarged and painful on pressure. The tongue heavily coated, papillæ on same red and prominent. On looking into his throat, I find it inflamed, and both tonsils are covered with diphtheritic deposits. His breath is fœtid; there is no appetite, but much thirst.

The following is ordered: ℞. Pilocarpin mur., gr. $\frac{1}{8}$; pepsini pur., ʒi; acid. mur. dilut., gtt. iij; aquæ ℥i ʒvi; glycerini ʒij. S. Teaspoonful every hour with a half tablespoonful of wine. Locally the following: potassæ chloratis, ʒi; aquæ ℥iiss. S. To be used as a gargle every half hour. Lemonade was freely allowed as a drink.

October 28th, 9 a.m.—The boy perspires freely; he does not complain of so much pain in head and throat as on previous day; has rested better during night. His breath is not as offensive as it was; tongue still coated; diphtheritic patches about the same as before; scarlet rash well marked. The same treatment was continued for the next two days, after which the medicine was given once in two hours, and the gargle used every hour. This boy made a quick recovery. I only saw him five times altogether. No anasarca or other sequelæ were observed.

Case II. was another boy with scarlatina and diphtheria. On Tuesday, April 4th, this year, I saw Philip K., aged five years, who had formerly enjoyed fair health. His mother states that her son was taken sick four days previous with what she considered to be measles. On examination, a fine vesicular eruption was observed on both hands and feet, a few vesicles presented also at the knees. A slight scarlet blush was observed on his back; he complained of severe headache, and had much thirst; had been very restless during the night. The temperature in axilla was 104½°, pulse 140, skin dry, tongue furred and red at tip and was also covered with several gray lenticular spots; breath fœtid; lips dry and parched; glands at angle of jaw swollen and painful. Both tonsils and uvula are covered with diphtheritic deposits.

The diagnosis of scarlet fever with diphtheria was established. Ordered: ℞. Pilocarpin. muriat., gr. ½; acid. mur. dilut., gtt. ij; aquæ destill., ℥ j ʒ vj; glycerini, ʒij. S. Teaspoonful every hour with half a tablespoonful of wine. Locally, a saturated solution of chlorate of potash was used as a gargle every half hour. Lemonade was freely allowed as a drink.

April 5th, 9 a.m. The mother states that her son had been delirious a portion of the night; that he had obstinately refused to take the wine. Present state: Patient perspires freely; a bright scarlet rash covers his breast, abdomen and back; vesicular eruption about the same as on previous day. He does not complain of so much pain in his throat; his headache has subsided; fetor from mouth not so bad. He coughed several small pieces of diphtheritic membrane. Temperature 104½°, pulse 136. Same treatment to be continued.

April 6th, 9 a.m. Boy is some better; rested well all night; does not complain of pain when he swallows; the rash is fading; vesicular eruption shrinking. Temperature 104°, pulse 130. Same treatment continued.

April 7th. Boy keeps on improving and is again interested in his play-things. Skin still keeps moist; tongue is less coated; breath not offensive. The diphtheritic deposit on uvula and left tonsil has disappeared, on the right side there is still some left; on both tonsils several deep ulcerations are observed. Temperature 102½°, pulse 120. The medicine is now given once every two hours; the gargle to be every hour.

April 8th. The cuticle on hands and feet is peeling off in large flakes. The temperature has declined to 102°, pulse 115. Same treatment.

April 9th. Boy rests well and takes sufficient nourishment; milk, eggs and fruit is his principal diet. Temperature, 101½, pulse 108. The medicine is now taken every three hours; gargle used four times per day.

April 10th. Temperature has declined to 99½°, pulse 85. Boy is cheerful and playful. Medicine continued.

April 12. The diphtheritic patches have entirely disappeared. Patient dismissed.

Case III. A brother of previous case. This child was seized on April 14th (just two weeks after his brother had first been taken down) with scarlatina and diphtheria. The same treatment as in the previous case was instituted here, and the patient made a good recovery in due time.

Case IV. was that of a lady, aged thirty, who was prostrated with diphtheria of a severe degree. She had a high pulse and temperature, severe pain in head and back, and large diphtheritic deposits on both tonsils, uvula and soft palate.

She took: pilocarpin. mur., gr. i; pepsin, ℈i; acid muriat. dil., gtt. ij; aquæ destill., ℥vi. M. S. Half a tablespoonful with three tablespoonfuls of wine every hour. Locally a saturated solution of chlorate of potash was used as a gargle every half hour. Lemonade was freely allowed as a drink. This patient made a good recovery in the course of a week. I visited her only five times.

Case V. A five year old girl, whom I saw first on April 6th. This was a case of diphtheria. She had considerable fever and diphtheritic patches on both tonsils. One fortyeighth of a grain of pilocarpine, one and one-fourth grains of pepsin, with two teaspoonfuls of wine, were given hourly. Locally, chlorate of potash solution. This girl recovered after four days illness.

Case VI. Mrs. K. was seized with diphtheria on April 7th. This was a mild case. Only one tonsil was involved. I only saw her once. She took pilocarpine without pepsin; locally the same wash. She recovered in two days.

Very recently I witnessed scarlatina of malignant type. Out of five children, whose ages ranged from five to twelve years, were prostrated about the same time, all occupying one dwelling. Three deaths occurred within ten days.

On the 16th of April, at 2 p.m., I was summoned to J.M. The messenger stated that a ten-year old girl was very low with convulsions. On my arrival at the house, I found the child dead; she having died several minutes before I reached the place. The parents stated that the girl had only been sick since the day before, that they did not think there was much the matter with her, until shortly before noon on the 16th convulsions took place. She had then passed feces and urine into bed, and head and feet were strongly drawn backwards. I observed that the pupils were dilated, and her neck and back were thickly covered with blue and purple spots. As no physician had been in attendance the family notified the Coroner of the death. An inquest was held on the 17th, and the verdict rendered was "death caused by cerebro-spinal meningitis." From the appearance of scarlatina in four other children in that house shortly after, I am inclined to believe that the poison of scarlatina was also imbibed in the first fatal case, and that the whole force of it was expended on the brain and spinal marrow, thereby producing inflammation and paralysis of nervous centres.

Cases VII & VIII.—On April 19th I prescribed for two other children in the same family, a girl of twelve and a boy of seven years. Both were affected with scarlatina of a severe type. The temperature in the boy at one time reaching 105°. However, both made a good recovery in due time. The treatment had consisted in the administration of one-fortyeighth of a grain of pilocarpine with a tablespoonful of wine every hour in the beginning; later, when the fever was on the decline, the medicine was not given so often.

Case IX was another case of malignant scarlatina in the same family. This was a five-year-old girl, who was taken sick on the 20th of April. On the morning of April 21st, the scarlet rash made its appearance. The temperature showed 104½°, pulse 138. The child was very restless. Ordered one-fortyeighth of a grain of pilocarpine with tablespoonful of wine every hour.

April 22d, 10 a.m. The girl is no better; she has active delirium; pulse small and frequent and temperature 105°. In addition to the pilocarpine one and one-fifth grs. of quinine were ordered hourly. Wine, eggnog and milk to be given frequently in small quantities.

April 23d, 10 a.m. The active delirium of day before has given place to a low muttering one; semi-convulsions occur now and then; feces and urine are passed in bed unconsciously. Temperature 105½°, pulse small and dicrotic. Prognosis unfavorable. Same treatment was continued.

At 9 p.m., on same day, the girl is yet unconscious. Temperature 107°. She does not swallow her medicine or eggnog any more. Convulsive movements occur more frequently. Death took place three hours later. On the body the same blue and purple spots were found shortly after death as had occurred in the older sister.

Case X was a six-year-old girl, a relative to previous family, who occupied the same house. This girl was under the care of a prominent physician of this city. I saw her, in consultation with the family physician, on the 20th of April. She had then been sick for four days. Her symptoms in the beginning were of a typhoid nature; there had been headache, general lassitude, pain and gurgling in right iliac region, and some elevation of temperature and pulse.

April 21st. A slight scarlet rash is observed on the body, the glands at the angle of both jaws are swollen; there is considerable gastric irritation and the child has to vomit frequently. The gurgling and tenderness in right iliac region have left; temperature 104°, pulse 130.

April 22d. To-day the girl complained of pain in her throat; her breath is fœtid. On examination diphtheritic deposits are seen on both tonsils and upper part of pharynx. The nostrils continually discharge a glairy mucus, she can only breathe through her mouth, which is always partly opened. The patient went on from bad to worse. All unfavorable symptoms increased. The diphtheritic membranes have rather increased and extended upward to nasal cavities.

On the 25th, semi-convulsions took place and the girl was delirious constantly; her feces and urine were passed in bed.

She died on the 26th, after an illness of ten days.

The treatment consisted in the administration of four two-grain calomel powders in the commencement. This was followed by bromide of potassium and spir. mindereri. When symptoms of scarlatina with diphtheria supervened pilocarpine with wine was given. Later on, quinine in full doses, eggnog, brandy and milk-punch were made use of. Locally a solution of chlorate of potash was at first used as a gargle, afterwards this was changed for a solution of carbolic acid and sulphate of zinc, ten drops of the former and fifteen grains of the latter were dissolved in an ounce of water, and frequently applied with probang to fauces.

These last two patients were not benefitted by pilocarpine, but they were cases of very malignant type, and I doubt if any other remedy would have accomplished more. Pilocarpine is not a cure-all, yet I consider it a valuable addition to our Materia Medica.

DISCUSSION.

Dr. Cleveland enquired whether any of the members present ever had used pilocarpine in membranous croup.

Dr. Cassat remarked that he had never had any experience with the drug in scarlatina but used it four or five times in croup and in three cases of diphtheria. In croup he had marked success from its use; in one case the symptoms had been so severe that he thought the child would die. He had tried other remedies previously without deriving benefit; after he had given pilocarpine the child became better, the croupy condition remaining almost a week, but eventually recovered. At this time he had a case of croup in a child, to which he had been called two nights in succession, death seemed to be imminent, he gave pilocarpine and its condition at once improved. In diphtheria his success had not been so great, as he lost two cases out of three in this disease.

He gave the pilocarpine in the cases just mentioned in one-fortieth grain doses combined with pepsin every hour. The membrane was not dissolved but was loosened and then came away. The drug itself caused no great prostration beyond what was already present from the disease.

Dr. Hottendorf said that he used pilocarpin but once in croup, but was inclined to believe this was rather the spasmodic than the membranous form of the disease. He saw the child only once when he was notified that the patient was much better and his visits were no longer necessary. The parents had lost a child by this disease at one time before and becoming alarmed sent early for medical aid. He doubted, therefore, if the pilocarpine had anything to do with the recovery of this child.

The following report, which speaks for itself, was then presented by the Chairman of a Committee appointed for this purpose.

To the Academy of Medicine—Gentlemen:

The Committee appointed by your President to take into consideration the advisability and mode of the formation of a

Directory for Nurses

beg leave to report that, after mature deliberation and voluminous correspondence with members of the profession in Eastern cities, it is in their opinion a want long felt and urge on the members of the Academy to assist in the establishment of such a Bureau.

As to the form with which such a directory should be inaugurated the Committee would suggest that which is in vogue in Boston, and now being adopted in Philadelphia as the most practicable. Each member is requested to suggest to each and every nurse he is acquainted with to go to the Directory and register. We feel confident that they will see the benefit which will accrue to themselves and the public and will readily avail themselves of such an opportunity.

We would suggest the appointment of a registrar, whose duty it shall be to keep the proper books and blanks necessary for the perfect running and good order that will be requisite for such an institution.

The committee would further suggest that a fee of $2,00 be exacted for registration, so that any but really competent nurses be discouraged from applying. Each applicant to be required to fill out a blank form, stating the name, residence, age, length of experience in nursing, from what training school, if any, if he or she has a diploma. Whether any particular branch of nursing is preferred to others, whether he or she is willing to take meals in the kitchen, the price per day and per week, and the names of three or four physicans and a like number of families as references.

When this blank is filled out and returned the registrar to send blanks, with a stamped and directed envelope inclosed, to the families and physicians named as references. The blank to a physician inquires whether the Doctor considers the applicant a desirable nurse, whether she is good-tempered, neat, capable, and mindful of directions, whether she has any faults and whether she is recommended in any special class of cases. The blank to families makes similar inquiries and begs for any information bearing on the character and qualification of the applicant.

We would recommend the appointment annually a committee of two, whose duty it shall be to have a general supervision of the bureau, to aid the registrar in carefully examining the different sets of blanks, and if the nurse is accepted an abstract is made of the reports and recorded in indexed books specially prepared for the purpose.

Properly printed postal cards, which would require but a moment to fill out, should be kept constantly on hand and sold to nurses at cost price, so that the directory may be immediately notified of the taking or termination of an engagement, or of a change in residence, price, etc.

On the first failure of a nurse to report an engagement promptly a warning is to be sent, and on the second failure the name of the delinquent is dropped from the register to which it can only be restored on the payment of a second registration fee.

Your committee further recommend that a card catalogue of all nurses registered should be kept so that the registrar can tell almost at a glance just which nurses are free at any given moment. Nurses are also expected to keep the directory informed as to future engagements—a point of special importance in securing attendance for ladies expecting confinement.

But the work of the Directory should not stop here. A nurse applying for registration is at liberty to choose her references and will naturally refer to those families and physicians whom she thinks will report most favorably about her. But when once the nurse is registered blanks specially prepared for the purpose are sent to each person who secures her through the Directory, as well as to the physician in charge of the case. The replies to be submitted to the committee, and then copied in abstract into the register or filed away, according to whether new facts are elicited or not.

All complaints to be investigated patiently and every care taken that strict justice is done as far as possible.

It is understood that the Directory will undertake to furnish wet-nurses and keep a list of trustworthy women who take infants to board.

Regarding the location of the Directory your committee have given much time and thought. Several members have been considered as fit and proper persons to whom should be trusted the records and duties of the office, but for the amount of labor required with the uncertainty of any fixed remuneration, it was not deemed advisable to propose any one member. It is self-evident that the place should be central and accessible, both by day and night, telegraph and telephone. No place but one, "The Cincinnati Hospital," seemed to meet all requisites, and in this connection the following communication will be in order:

CINCINNATI HOSPITAL, April 18, 1882.

Dr. Wm. Judkins, Chairman Committee of Bureau of Nurses:

DEAR SIR—In regard to the proposed "Bureau for Nurses" in this city, I beg to say that the movement meets my hearty approbation, and that, so far as in my power, I shall be glad to give my aid in the matter.

I have for years kept a register of competent nurses for private service, and shall be glad to extend the system so as to cover the proposed work. A register may be kept at this office that can be consulted at any moment, day or night.

Yours truly, H. M. JONES, Superintendent.

The Cincinnati Medical Society, that for some time have had this question under consideration, had a similar proposition, which was accepted with thanks, and your committee feel that for the present it would be best for all concerned to act in unison, as it is proverbial that a house that is divided cannot stand, and recommend the establishment of the Directory in that institution.

The expenses of the Directory, which for printing and postage will be naturally heavy, are met by the fees paid by those securing nurses through its intervention. When information alone is given and the employer seeks out the nurse a charge of one dollar is recommended to be made between the hours of 8 a.m. and 8 p.m., and of two dollars between the hours of 8 p.m. and 8 a.m. When employers wish the nurse laid down at their doors, as it were, the Directory to undertake that duty for the further sum of one dollar.

If nurses are to be sent to a distace, in response to telegraph, the charge is somewhat increased according to the extra work incurred. For wet-nurses of previously healthy condition a charge of five dollars to be made. Whatever sum of money may accumulate from the different fees, over and above the actual running expenses of the Directory, your committee suggest the same be invested as a nucleus for the establishment of a medical library, a want often felt, second only to that of the bureau we so heartily recommend the inauguration of.

Your committee wish further to say that nurses are not guaranteed employment by the Directory and are always at liberty to seek occupation for themselves, provided, only that they send prompt notification of any engagement secured.

The chief aims of the Directory will be to put employers and nurses in ready communication with one another and to afford employers reliable information as to the character and qualifications of one who is about to become an important member of the household.

Respectfully submitted,
William Judkins, M.D.,
A. G. Drury, M.D.,
F. C. Schmuck, M.D.,
Committee.[1]

CINCINNATI MEDICAL SOCIETY.

Meeting of May 9th, 1882.

GUSTAV BRÜHL, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

Cheyne-Stokes Respiration.

Dr. Davy remarked that he had had under observation for some weeks a well marked case of that rare form of breathing known as Cheyne-Stokes respiration. The case was to him an exceedingly interesting one, and as its cause is still a matter of doubt, he thought it well to report the case to the Society.

Mr. A., aged 70; has always been a steady drinker, indulging mostly in wine and never drinking to excess. He is very energetic, excitable, quick in action, and hard to control. For the last year he has had more or less trouble from attacks of cardiac asthma causing great dyspnea and distress. About a month ago he went to Florida, hoping to be benefited by a change of air, but returned immediately in a much aggravated condition. Since his return his pulse has been as usual, very irregular; and his respiration, almost constantly of the peculiar type mentioned above. The action of the heart is feeble, and, so far as the speaker could determine, without murmur; but Dr. Carson, who also saw the case, detected a faint mitral murmur. The Cheyne-Stokes respiration was very characteristic at times, though at other times the breathing was more natural. One morning, while the patient was in a natural sleep, the speaker had an opportunity of studying this peculiar form of respiration along with the state of the pulse. He found the patient asleep on entering the room, and remained fifteen minutes in timing the respiration before arousing him.

One complete cycle of the respiration occupied fifty seconds. There was first very slight and superficial breathing for one or two respirations, followed consecutively by several acts of normal breathing, hyperpnea, moderate, and extreme dyspnea; and then a decline, perfectly gradual like the ascent, until the condition of apnea, or complete arrest of respiration, was arrived at.

The period of apnea occupied about ten seconds, and the progressive decrease of frequency in the same from dyspnea to apnea, each occupied about 20 seconds. The number of respirations in the rise from apnea to dyspnea, and in the fall from dyspnea to apnea was about ten, making about twenty respiratory acts in fifty seconds. All this time the pulse preserved its intermittent and irregular characters.

The patient lay perfectly quiet, except during the dyspnea, when he would throw his hands around or slightly change position, which, at the time of the observation, was on the left side. In the sitting posture the dyspnea is always less marked than when recumbent, though the character of the pulse has apparently more to do with aggravation of the dyspnea than posture.

When the pulse is very irregular and soft, the dyspnea is always greater. The most distressing part of the dyspnea has been to a great extent relieved by different medicines, but the peculiar character of the respiration, though modified somewhat (mainly by shortening the periods of apnea and dyspnea) has never been entirely cured.

One of the conditions which has always embarrassed the action of the heart and aggravated the dyspnea is constipation of the bowels. Whenever slight constipation occurred there were generally some attending symptoms of dyspepsia with collections of flatus in the large intestine and possibly in the stomach; this would press upon the diaphragm and embarrass the already feeble action of the heart. Apart from any embarrassment of the heart's action by these dyspeptic symptoms the speaker claimed to have seen numbers of cases where constipation has been the means of increasing general arterial tension by promoting peripheral obstruction. In such cases laxatives had always changed the character of the pulse and calmed the action of the heart. In the case reported laxatives, when indicated, had never failed to temporarily improve the action of the heart, and relieve the dyspnea.

Another interesting feature connected with the case was the frequent wandering of the mind. This the speaker thought due to a deficient blood-supply to the brain. He had often noticed similar phenomena attending cases of anuerism of the aortic arch or innominate artery, and cases where tumors etc. interfere, by pressure, with the blood-supply to the head.

As to the cause of the Cheyne-Stokes respiration little could be said, because scarcely anything is positively known. Stokes has generally associated it with a fatty heart, which, the speaker felt almost certain, existed in the case reported. It is, however, generally believed to depend upon some obscure brain lesion, but no one has as yet been able to locate the exact point of said lesion. May it not be owing in part to a weakened circulation in the medulla oblongata? Experiments have shown that when the circulation in the medulla is arrested or retarded, dyspnea is the result, whether the blood in other parts of the body abounds in oxygen or not. The normal rhythmical condition of respiration depends strictly upon the supply of oxygen in the blood. Apnea can be produced as easily by a few hurried and deep inspirations as it is possible to bring on dyspnea by violent exercise. All the details of Cheyne-Stokes respiration are susceptible of explanation through physiological facts, but their peculiar sequence is puzzling in the extreme.

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[1] The Committee beg to express their best thanks to Dr. Jas. R. Chadwick, of Boston, and W. W. Keen, of Philadelphia, for their kind aid in the preparation of this report.

ANNUAL ADDRESS

Delivered before the West Virginia State Medical Society at Wheeling.

By JAMES E. REEVES, M.D , President.

Establishment of County Boards.—Local Boards of Health have been organized in fifty-two of the fifty-four counties composing the State, and the two yet to hear from will soon fall into line. During the year, many opportunities have been afforded for the display of the usefulness and economy of local boards as convenient agents of the county courts in suppressing and literally *stamping out* infectious and contagious diseases. In several of the counties, smallpox would have gained lodgment and paralyzed the business interest and prosperity of whole communities but for the prompt and efficient measures employed by medical officers of local Boards of Health.

How the State was Saved from Smallpox.—Last winter, the State Board of Health, by the establishment and enforcement of quarantine against the cities of Pittsburg and Allegheny saved West Virginia from the ravages of this loathsome disease. Hence the wisdom and value of properly constituted laws to protect the public health.

With such encouragement in less than one year from the date of the passage of the law, what advancement may we not reasonably expect in the near future when public sentiment shall have been more highly cultivated by the laborers in the vineyard of sanitary science? There is much to encourage hope of a speedy and general awakening of the people of all classes on the subject of good health. There is a vast field in West Virginia outside the frequent scourges of typhoid fever, diphtheria and other infectious, contagious, endemic and epidemic diseases, to engage the earnest attention of sanitarians and exercise the health boards. * * * * * *

Cheap Diplomas.—It is shameful to acknowledge it but the truth must be told, strike where it may, that in this great country of ours, notwithstanding the long and loud clamor for higher medical education and the establishment of a Medical College Association to encourage a longer, more uniform and thorough course of study, a diploma is not always proof that its possessor is a duly qualified physician, or that he has attended even one full course of lectures, or that he has even attended lectures at all. In justification of this charge of bad faith on the part of medical colleges, I do not hesitate to furnish a case in point:

On the 13th of last January an applicant for medical certificate, a resident of West Virginia, came before the District Board at Wheeling and failed to pass a satisfactory examination within the meaning of the law. Ten days later, or about the 23d of January, he knocked at the door of the *Graduating Class* of the Columbus Medical College and was admitted. Within one month from that time he was graduated; and at the brilliant display at Comstock's Grand Opera House, on the evening of the 24th of February, he received his diploma!

I have it from an eye witness that he presented to the Faculty letters of recommendation from prominent gentlemen in West Virginia, and that in the distinguished graduating class (which was spoken of by some of the professors as one of the brightest and best that ever came from that school) "one man was graduated who did not know what the iris was, nor the pupil; could not locate the mitral nor tricuspid valves—placed the valvulæ conniventes in the *brain*, and the ileo-cecal valve in the *rectum!*" "There were several of that sort, but they are just now as much doctors (in Ohio at least) as you or I."

What an impressive, never-to be forgotten scene at the Commencement! The stage decorated with beautiful flowers—the orchestra discoursing sweet music and stirring the hearts of the audience—the Faculty, in double file, marching upon the stage—the 59 graduates taking their places in the front rows of the parquette—and the applause! and the bouquets! which greeted the new Doctors!! It was most appropriate that a *prayer* was then and there offered.

But, unfortunately, this is not the only example that could be given of the ease with which college honors have been won by enterprising applicants. Some of the oldest and most reputable colleges in this country have, now and then, been guilty of relaxing the rules to accommodate *special* cases and thus done injustice to the profession.

Necessity of State Board of Medical Examiners.—Surely, it is high time for the establishment of State Boards of Medical Examiners when every nondescript association of doctors, whether for proper or improper purposes, can obtain from State Legislatures a charter for a medical college. The old safeguards to respectability have been shamefully broken down by the rivalry of cheap medical schools, and thus the field of medicine has been thrown wide open to every ignoramus and mercenary adventurer who may desire to enter it and profit thereby.

Medical students generally and college professors in particular will please take notice thereof and govern themselves accordingly, that the State Board of Health of West Virginia will not hesitate to go behind the returns and refuse to recognize diplomas granted by any school that does not require as a condition of graduation one year's reading with a private instructor and at least *two* full courses of medical lectures.

The States Chiefly Responsible.—The North Central States are chiefly responsible for the horde of ready-made doctors annually turned loose to prey upon the lives of the people and eat up their substance. By her varied supply of fast-running diploma mills the neighboring State of Ohio is probably entitled to greatest distinction. Any sort of a diplnma, and guaged in price to suit purchasers, may be secured without trouble, expense, and the farce of the applicant appearing in person.

But however numerous and disgraceful alike to the State and the medical profession, such disreputable establishments, as we have been contemplating, cannot tarnish the good name or hide from professional admiration the excellent and truly first-class medical colleges in Ohio, from which many of our most learned and reputable physicians have received their honors. Naturalists tell us that ill weeds infest the same grounds where the choicest plants flourish, and by whose shape they are protected; and we must be content with the laws of nature.

Just now Ohio is an inviting asylum for the repose of all pretenders in medicine who have been driven out from other States. Within the last nine months, or since our State law went into effect, scores of such "doctors" have fled "o'er the border," and are now, no doubt, supremely happy that the effort in the Ohio Legislature, last winter, to keep them moving, failed.

The Disgrace of a Sister State Medical Society.—That the medical profession has fallen upon evil times is unhappily shown by the recent action of a sister State Society. The State Medical Society of New York, which, under the pretense of "the demands of humanity and professional *liberality*," has convicted itself before "all the world and the rest of mankind" of the charge that *the prospects of a fee quickens both the perceptions and sensibilities of a majority of its members.*

Cupidity is one of the sins of medical men which tends to disgrace medicine, and it is the most damning evil of the profession. The wild rush for business, the low and despicable acts by which it is obtained, and the reckless desperation of the unsuccessful, are most humiliating evidences of the degeneracy of the times.

How absurd to talk of "consultations with legally qualified physicians!" which has the same meaning in the State of New York that it would have in West Virginia where, as has already been told, may be found quacks of all colors, and the veriest pretenders in practice who have been tolerated under the ten years' exemption clause of our law.

The Concession Not Exclusively for the Benefit of Homœopaths.—With singular unanimity the secular lar press in all directions of the country has endeavored to mislead public opinion by heralding the degradation of the State Med. Society of New York as a concession for the special privilege and benefit of homœopaths, when in fact the act of the society means that its members have full license to consult with and give advice to homœopaths, but eclectics (a far more respectable class of "doctors") and all other irregular practitioners—whenever and wherever the consultation fee is secure?

What is the object of a medical consultation? Certainly, to benefit the patient who does not care a straw for differences of opinion concerning the name and pathology of his illness——what he wants; and pays for, presumably, is the proper treatment of his disease by which he can hope for recovery.

Scientific Medicine Cannot Consort With the Nonsense of Homœopathy.—There is an impassible gulf between the practice of scientific medicine and the nonsense of homœpathy. The two cannot be made to harmonize—there is no common ground on which science and a trade-name clan can meet; and the spectacle of consultation between a regular physician and a homœopath concerning the treatment of a sick patient would be not less ridiculous than to behold Bob Ingersoll and De Witt Talmage, with minds and hearts professedly in unison, administering spiritual comfort and consolation to a dying man!

The line separating the true and the false, the honest and the dishonest, cannot be too sharply drawn, nor too rigidly maintained. Fortunately the remedy, like the evil, is in the profession; and "the wisdom of the law is greater than the wisdom of any one man," or of forty men. The jurisdiction of our National Medical Congress—the American Medical Association, extends to every State and county; acknowledged as the representative body of legitimate medicine in America, its code is high above all State society rules; and no city, county or State society can reverse its power to legislate for its own protection and for the common good of the profession.

The Medical Society of the city of Wheeling and county of Ohio, at a recent meeting instructed its delegates to the American Medical Association to stand fast by the time-honored code of medical etthcs! I am confident this society will do likewise, and thus renew its allegiance to the central and supreme authority.

[We regret having space only for an interesting extract. 'Tis well to know that the course of the medical profession of Ohio is closely observed by their brethren in sister States.]

ACUTE CARDIAC AFFECTIONS OF OLD AGE.—M. Ch. Féré believes, from a careful study of this subject, that acute affections of the heart, occurring in old age, are rarely due either to acute or sub-acute rheumatism, and that even though acute rheumatism may occur at this period of life, it rarely implicates the heart. On the other hand, he thinks that, although pulmonary affections may produce pericarditis cardiac lesions in the old can almost invariably be traced to some renal affection.—*Revue de Méd.*, March 10, 1882.

OHIO STATE MEDICAL SOCIETY.—The next annual meeting of this Society occurs at Columbus, June 13th, 14th and 15th, 1882. President, Starling Loving, M.D.; Secretary, J. F. Baldwin, M.D.; Treasurer, T. W. Jones, M.D., all of Columbus, O.

THE AMERICAN MEDICAL ASSOCIATION.—The thirty-third annual session will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 6, 7, 8, and 9, 1882, commencing on Tuesday at 11 o'clock a.m.

THE CINCINNATI
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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, June 3d, 1882.

Miscellany.

MR. B. T. FAIRCHILD, of the firm of Fairchild Bros. & Foster, New York, is in the city.

ACADEMY OF MEDICINE.—Dr. J. M. French will read an essay on "Syphilitic Epilepsy," next Monday, 5th inst.

A "SYSTEM OF GYNECOLOGY BY AMERICAN AUTHOR'S" is in process of preparation, and it is intended that this shall be as nearly encyclopædic as possible.

To me has been allotted the task of writing the chapter on the "History and Statistics of Ovariotomy." To obtain complete statistics of all ovariotomies done in the three-quarters of a century of the history of the operation, is a task quite impossible, as many of the earlier ovariotomists are dead, and their records lost. Even among the living many may be disinclined to co-operate with me, as they should. Although the report of each operator's cases may cost him some time and trouble, you will readily see what a valuable fund of information will be obtained by the collation and arrangement of all the facts to be gained.

It is desirable, too, to have all material ready for the press by the end of this year, so that the sooner the returns are made, the lighter will be the task of the editor. Please request all who wish their cases published, to send me the reports before Sept. 1st, prox.

The questions to be answered are as follows:

1. Name of operator?
2. Age of patient?
3. Nationality?
4. Married or single?
5. Aspiration or previous tapping?
6. Duration of growth?
7. Laparotomy or vaginal Operation?
8. Condition of patient at time of Operation?
9. Were antiseptic precautions used?
10. Was the spray used?
11. Long or short incision?
12. Adhesions or other complications?
13. Double or single Ovariotomy?
14. Pathological features of Cyst?
15. Treatment of the Pedicle?
16. With or without Drainage?
17. Duration of Operation?
18. Complicated or Uncomplicated history after Operation?
19. Anti-Pyretics used, if any?
20. Result. Cause of death, if any?
21. Primary or secondary operation?

Let the answers be as concise as possible. In many cases a simple yes or no will suffice.

All communications should be addressed to J. E. Janvrin, 191 Madison Avenue, New York.

Selections.

MEDICINE.

DECUSSATION OF MOTOR IMPULSES.—In a paper recently presented to the Academy of Sciences, at Paris,[1] M. Brown-Séquard, the versatile experimenter on the physiology of the nervous system, took rather strong ground against the generally received opinion, that irritation of the surfaces, or of some more deeply seated portion of the brain on one side will be followed by movements of the limbs on the opposite side of the body, thus apparently showing the centres of innervation for a vertical half of the body to be located in the opposite cerebral hemisphere. After reviewing hastily many of the clinical facts which lend support to this generally received doctrine, he summarizes the theory of physiological impulses in this way. The general view of the action of the brain is, that the cortical zone is the center for psychical and motor impulses; fibres pass from it to the base of the brain, where they form the anterior part of the cerebral peduncles, of the pons Varolii, and of the medulla. The fibres from one side decussate with those of the other in the pons and in the medulla, descending afterwards in the spinal cord, so that the left half of the cord contains the conducting fibres coming from the right side of the head, and vice versa. Now, many experiments made by the author with reference to the effects of irritation of various parts of the brain of several of the domestic animals tend to prove the contrary.

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[1] Published in the "Comptes Rendus."

According to the accepted theories, a mechanical or galvanic irritation of those parts considered as motor centers, from the excitable zone of the surface to the pons, should always give rise to movements of one or both of the limbs of the opposite side of the body. That such is not the case is proven by the following experiments:

1° The irritation of one side of the pons Varolii, or of the medulla, or even of the anterior pyramids causes in nine cases out of ten, on the same animal, movements of one or both limbs of the same side. Again we often obtain movements on the side of the irritation, when, after a transverse section of a lateral half of the medulla, a mechanical or electrical irritant is applied to the upper portion of the pons.

2° The irritation of the cerebral peduncles in the parts considered as motor, as well as in all the others, frequently gives rise to movements of the limbs of the same side. This result is obtained five or six times in ten, if the lower part of the peduncle be taken and three times out of ten if the upper part be selected as the seat of the irritation.

3° If galvanization be applied to the bundles of fibres which pass from the corona radiata and corpora striata to the cerebral peduncle we very frequently find movements of the same side; if these parts be divided transversely, the mechanical irritation thus produced very seldom causes any movement in the limbs; should this occur, it is often on the same side.

4° Even the cortical zone of the cerebrum often gives rise to movements of the same side, as shown by M. Couty. Going still farther, if this motor zone be galvanized after dividing the lateral half of the medulla or of the pons Varolii, it is found that the movements take place usually with more energy on the opposite side of the body than before the section of these conductors, which are usually held to be the only means of transmitting irritation of this zone to the limbs.

According to the received opinion, if a transverse section of a lateral half of the cervical cord be made at the level of the second pair of nerves, and if, following such section, various parts of the brain of the same and of the opposite side of the body be irritated, there ought to be no movement, or, at all events, a very feeble one in the limbs of that side where the lesion has taken place; but it has been found in his experiments that both halves of the brain are capable of acting energetically on these parts, and the most varied and irregular movements have been found to occur, involving sometimes all four extremities. A single half of the spinal cord may thus suffice to transmit to the limbs of both sides of the body the stimulation produced by mechanical or galvanic irritation of one or the other half of the brain.

According to the analysis made of more than 500 cases of unilateral convulsions, following upon various injuries of the brain, the same results are found in man as in the lower animals; the base of the brain and the motor areas adjoining, contrary to the accepted view, more frequently gives rise to convulsions of the side of the irritation than to those of the opposite side. The superficial parts of the brain produce most frequently convulsions of the opposite side; but all these parts may, under the influence of some irritation, cause movements of the side upon which the irritation exists both in man and animals.

Convulsions.—1° We must consider that the theory of psycho-motor centers and the generally received theory of the relation existing between one side of the brain and the opposite half of the body, have thus lost one of the principal foundations on which these theories rested; 2° we must admit that the excito-motor zone of the cortex cerebri as well as all excitable parts of the brain are capable of producing movements of the limbs of the same side, as well as those of the opposite side, and that they may produce these effects after a transverse section of the lateral half of the pons Varolii or of the spinal cord or medulla oblongata, or even after two sections involving the right and left half of the base of the brain, provided that a certain interval exist between these two sections.

M. Brown-Séquard has certainly worked very conscientiously to prove his case, and we are fain to conclude that these experiments have been characterized by the same caution against all possible sources of error for which he has become famous. Admitting even that the facts are as stated by him, that his experiments led unmistakably to the conclusions which sum up the results of his work, it is hardly to be expected that this one article, though bearing the authority of so weighty a name as his, will lead to a radical change of the opinion, now firmly rooted in the minds of observant practitioners, that lesion of one side of the brain gives rise to nervous derangement, principally of the opposite half of the body. Pathology has too frequently demonstrated the concurrence of hemiplegia and of cerebral lesion of the opposite hemisphere to allow of any departure from this doctrine on the mere strength of the experimental evidence of a single observer. It is true that the conditions of a physiological experiment and of a pathological change are not identical, that the former is supposed to be more limited in its action, and, therefore, more likely to be reliable than a change which must necessarily involve more than one structure; this change being in itself usually a result or antecedent of some other trouble; but it is still very questionable whether, in a structure of such delicate and complicated arrangement as the brain, the physiological experiment can be made with sufficient care to limit its action to any portion of cerebral substance, functionally distinct from all other areas of this tissue; and until this is clearly demonstrated we should not be too hasty in pinning our faith to every new theory, advocated though it be, by a man of known attainments. It is three or four years since M. Brown-Séquard first denied the truth of the teaching of decussation from the brain to the cord, basing his denial on a few pathological observations, which have not been abundantly confirmed; his physiological endeavors tend in the same direction and show that he is using every means to substantiate his opinion. The value of the untiring labors of Brown-Séquard can hardly be over-estimated, but the nervous system has furnished the basis for too many ephemeral theories to justify us in accepting, in toto, the latest doctrine, merely because it is the latest.

J.E.

INDIGESTION AND BILIOUSNESS.—Dr. Fothergill, in his recent work on this subject, which has been so widely read, calls attention to the lectures of Dr. Roberts on the digestive ferments in which the applicability of the pancreatic ferments, not only as a remedy in intestinal indigestion but especially in preparing *peptonised milk* is demonstrated. This may almost be considered an ideal food for the sick. In regard to the application of the pancreatic secretion, we quote from Dr. Roberts as follows:

"My attention was first turned to the artificial digestion of milk, and I soon found that it was possible, by means of *pancreatic extract*, to digest this important article of food with comparatively little disturbance of its taste and appearance. Milk contains all the elements of a perfect food, adjusted in their due proportion for the nutrition of the body. Two out of three of its organic constituents—namely, the sugar and the fats—exist already in the most favorable condition for absorption, and require little, if any, further assistance from the digestive ferments. It is therefore obvious, that if we could change the casein of milk into peptone without materially altering the flavor and appearance of the milk, such a result would go far towards solving the problem of supplying an artificially digested food for the use of the sick."

A pure extract of pancreas is now prepared by Messrs. Fairchild Bros. & Foster which possesses marvelous activity in digesting milk and starch. Five grains of this extract peptonizes a pint of milk in one hour under very simple conditions.

INFLUENCE OF PYRETIC DISEASES ON THE COURSE OF SYPHILIS.—It is well known that the grave pyretic diseases can materially modify the course of constitutional syphilis, so that its manifestations may temporarily subside or be moderated. In corroboration of these views, Dr. Petrowsky (*Vratsch*, No. 22) relates the histories of three patients who appear to have been entirely cured of it in consequence of an intercurrent fever. The following case illustrates his claim. The patient, male, aged thirty, contracted syphilis six months previous to his entering the hospital. He had an indurate ulcer on the prepuce, balanitis, a number of flat condylomata on the head of the penis, discharging papules thickly covering the scrotum, and large mucous patches on the fauces, while the scalp was covered with the desquamating papular syphilides, and on the face were numerous tubercles. A mercurial treatment of six weeks' duration had but a very slight effect, though the Hunterian induration grew smaller and the syphilides on the scrotum became drier and smaller in size; the remaining manifestations were unaltered. Toward the close of the second month of his stay in the hospital, he contracted small-pox. The disease was very severe, but he recovered entirely, and when the scabs fell off not the slightest trace of his former syphilitic manifestations could be discovered. This patient was under observation for a number of years, remaining free from the syphilitic symptoms. The second case, also in the early stage of syphilitic intoxication, recovered in consequence of a grave attack of facial erysipelas lasting two weeks. Here mercury was not used at all. The subsequent history was the same as in the preceding case. The history of the last patient is less striking. After recovery from typhoid fever a gummy tumor situated at the angle of the jaw suppurated and healed of itself, leaving a cicatrix that was free from all appearances of disease.—*Medical Record.*

THE TOMATO AS A DIETARY.—The profession and the public are by no means agreed as to the dietetic value of the tomato. The classical authorities on food, such as Pavy and Chambers, dismiss the claims of this vegetable very curtly, simply placing it among the anti-scorbutics, and allowing it a little, if any, nutritive power. The public, on the other hand, believe this ally of the potato to be not only a highly nutrient vegetable, but a stomachic, a cathartic, and generally a potent blood-purifier. That the tomato is thought too little of by the profession generally is true, but it may be doubted whether it possesses those wonderful alterative powers ascribed to it by the Americans, many of whom persuade themselves that they are never in health except in the tomato season. This f uit (as it may also be called), however, exhibits one remarkable property in connection with plant diseases, which suggests its use as a germicide and a protector against those disorders, so many of which we now know derive their origin from bacteria and allied germs. If a tomato shrub be uprooted at the end of the season, and allowed to wither on the bough of a fruit tree, or if it be burnt beneath, it will act not only as a curative, but protective, against blight and similar attacks. This hostility to low organisms is due to the presence of sulphur, which is rendered up in an active condition in the decay or burning. Remembering that digestion also splits up the tomato into its chemical constituents and releases sulphur, probably in a nascent condition and probably in the intestinal canal, it may have as great potency there as experiments prove it to have outside the body. Summer diarrhœa, English cholera and typhoid fever are all due to low organisms. As the darrhœal and typhoid seasons are luckily contemporaneous with the fruiting of the tomato, it is not unreasonable to assume that tomato-eaters would be more than ordinarily likely to escape such diseases. It is worth noting that typhoid fever is most prevalent among the poor to whom this expensive vegetable is almost unknown. Sailors, too, just after landing, are particularly liable to typhoid, and in them we may always assume a more or less scorbutic condition. But the question of the protection against disease by certain diets, and by such habits as the use of alcohol, tobacco and opium, has as yet been hardly inquired into.

Experiments are now being made on the tincture of the tomato which will help in determining its therapeutic value. Meanwhile, eaten cooked with hot meats, and in the form of salad after a cold lunch, it is a pleasant and useful addition to our ordinary regimen. The fruit-acids it contains, combined with the mechanical effect of the seeds and skins, render it to some extent an enemy to scurvy as well as a laxative, and the sulphur, with its known power over septic conditions, would probably contribute to make its use a protection against the poison germs of those diseases, like typhoid, that find their way into the system primarily by the alimentary canal. One caution is needed to the lovers of this esculent. The taste for it being an acquired one, it is the more likely to be indulged in to excess, and we have known almost as many *tomato-maniacs* as *ostro-maniacs*. All kinds of raw fruit, it should be remembered, except used with care, are liable to irritate, and we have known an instance where a person, working hard on raw tomatoes only, was seized with inflammation of the bowels, which proved fatal in a few hours. As an article of diet, then, two or three tomatoes will be found as effective as, and certainly safer, than a dozen.—*Australian Medical Journal.*

RETRO-PHARYNGEAL ABSCESS AND SCARLET FEVER.—Dr. Lewandowsky, in recording two cases of retro-pharyngeal abscess after scarlet fever, in the *Berliner Klinische Wochenschrift*, No. 8, draws attention to the comparative rarity of this complication of scarlet fever, although inflammatory conditions of contiguous or neighboring parts of the neck are so very common. Dr. Schimtz did not find one single case in the St. Petersburg Children's Hospital among 450 cases of scarlet fever. Dr. Bokai, on the other hand, gives seven cases as occurring among 664 cases of scarlet fever, being in the proportion of seven out of 154 cases of retro-pharyngeal abscess which he had collected together. Case 1. A child, one year old, contracted the fever (two other children had died of the malignant form), apparently not very severely. There was early some inflammation about the posterior nares, as evidenced by copious muco-purulent discharge from, and swelling about the base of the nose. Fauces not unduly inflamed or affected. About three weeks after the commencement of the fever, convalescence being slow and variable, but without any symptoms specially pointing to the retro-pharynx, a swelling was noticed on the left side of the median line, with distinct fluctuation. An incision was made into it, and about half an ounce of thin yellow pus let out. The child then rapidly recovered. Case 2. A boy, aged seven months, sickened with a mild attack of scarlet fever. The catarrhal symptoms in the fauces were slight; but there was a copious discharge of muco-purulent material from the nares. Convalescence was proceeding slowly, when (on the tenth day) a peculiar snorting respiration came on. On examining the fauces, a swelling was seen, which fluctuated on pressure. An incision was made into it, and a tablespoonful of good yellow matter was evacuated. The child soon recovered completely. In some remarks, the author points out that it is especially in young infants that this form of abscess mostly occurs. They were on one side of the fauces only; their development was slow, and subacute in form, and thus there were none of the symptoms of suffocation and difficulty in swallowing which occur in more acute cases. On this account, perhaps, they may occasionally be overlooked. Mere inspection of the fauces does not suffice for their recognition; the finger is almost always necessary. Prognosis is not unfavorable; an incision is the proper treatment to adopt.—*Medical Times and Gazette*, March 18, 1882.

THE OCCURRENCE OF SUGAR IN THE SERUM OF ŒDEMATOUS TISSUES.—Dr. Ottomar Rosenbach, of Breslau, maintains (*Breslauer Aertzl.*, No. 5, 1882) that sugar is an almost constant ingredient of those œdmatous fluids which contain only small amounts of albuminous materials. The quantity of sugar present, even in the most marked cases, amounted to only from one-tenth to one-fifth per cent. of the transuded fluid. The transudations most frequently analyzed by Dr. Rosenbach were obtained from œdematous subcutaneous areolar tissue, by means of suitable canulæ. Sugar was also found, however, in serum withdrawn from the pleural and peritoneal cavities, and in that from the cranium of a hydrocephalic child. The presence of the sugar was demonstrated by means of Trommer's and Fehling's tests, after the removal of all albuminous ingredients of the transudation by boiling and filtration. If the fluid be exposed to the air for any length of time the quantity of sugar rapidly diminishes, owing to the occurrence of the alcoholic fermentation. Careful examinations failed to detect sugar in the urine of those patients from whom the saccharine dropsical effusions had been removed. The author was unable to observe any difference in the relative quantities of sugar contained in transudations from different parts of the body.—*Allgemeine Medical Central-Zeitung*, March 15, 1882.—*Medical Record.*

A NEW VESICANT.—Dr. Jose Armengue, of Barcelona, has lately brought to the notice of the profession a new vesicant, which in many respects would appear to be far superior to cantharides. The new material is derived from *Œnas afer*, a coleopterous insect, which at certain seasons of the year appears in enormous quantities in Spain. From experiments which Professor Armengue has instituted, he is led to claim for the *Œnas afer* as a vesicant, the following advantages over cantharides: it is cheaper; it acts without appreciable pain; it is equally powerful; and does not affect the genito-urinary system. If its non-inflammatory action can be established by further experiment, the *Œnas afer* will be a valuable addition to the materia medica.

Original Communications.

ON SOME OF THE FEATURES OF PNEUMONIA.

By E. F. Wells, of Minster, O.

Case I. On October 20, 1881, a young novitiate of the sisterhood of the Precious Blood was engaged in washing. She perspired freely, and, feeling overheated, sat down in the draft to cool off. She promptly took a cold in the head, and during the night was feverish and restless. On the following morning, her eyes were suffused with an abundant secretion of tears; the mucous membrane of the nose and pharynx was congested, with a discharge from the nose; and had headache and general muscular soreness. The inflammation crept rapidly down the air passages, attacking in turn the larynx (with croupy cough) trachea, larger bronchi, (with feeling of constriction of upper part of the chest) smaller bronchial tubes, and finally the air cells and pulmonary parenchyma at the base of the left lung. This last phase was ushered in by a severe chill and an increase of the previously existing fever. During the course of the disease—which was mild—all the ordinary signs and symptoms of pneumonia were observed, and recovery from the inflammatory lesions occurred in exactly the same order in which they were developed. On the fifth day the patient was convalescent.

It was formerly generally believed that pneumonia was essentially a local inflammatory process, the general symptoms being only a sympathetic irritation reflected throughout the economy. That pneumonia should be a systemic affection with a local maifestation never entered the minds of the rank and file of the medical profession. Now, however, the latter is the universally accepted view, the pendulum of fashionable professional opinion having swung from one extreme to the other. That the present popular view of the essential nature of pneumonia, in the vast majority of cases is the true one, is well nigh certain. Among the most pregnant facts pointing in this direction, we may mention the great disparity often observed between the amount of local lesion and the general symptoms, the definite duration of the disease, and the wonderful uniformity in the death rate of pneumonia in all lands, under every imaginable variety of climate, local surroundings, regimen and treatment.

The disparity often existing between the local lesion and the constitutional symptoms must have been observed by every observer of experience, and, in pneumonia, who long remains without this? Sometimes the local trouble is but slight, although accompanied by the most profound symtoms. Some three years ago I was called to see a large and powerful man sick with pneumonia. The general system was most profoundly affected, and he barely escaped with his life; yet the most careful physical examinations revealed the presence of only an insignificant amount of pulmonary trouble. On the other hand a wonderful extent of local mischief may exist with but the very mildest symptoms. This latter point was early in my medical career, very forcibly impressed upon my mind by the case of an Irish ditcher who came to my office complaining of dyspepsia and an inability to continue his work, although not confined to the bed, and steadily maintaining that he was not ill. His entire right lung was in the stage of hepatization.

It is a matter of common observation that pneumonia is a self-limited disease with a duration of from five to nine days. But in regard to the mortality of pneumonia there is no such universality of agreement as is desirable. There is a widespread popular opinion, shared to a great extent by the profession, and fostered by the literature of the subject, that pneumonia is a disease with a natural tendency toward recovery, and of but slight fatality. That doctors disagree is proverbial, but nowhere in the whole range of medicine is this better exemplified than in the varying statements of authors as to the death rate of our most common and most severe acute disease, *par excellence*, which has ever, by common consent, been considered as affording the best test of the effects of medicinal treatment. Just here, however, is the rock upon which we strike, for statistics are only too often given merely to confirm or condemn some special theory or plan of treatment.

The mortality of pneumonia varies according to the statements of authors, from *nil*, to eighty-two[1] per centum. I have, with considerable labor, collected and tabulated statistics of 92,643 cases of pneumonia, of which vast number 20,594 perished from the immediate effects of the disease, a rate of 22.4 per cent. These cases were collected from all parts of the world, and were subjected to every imaginable mode of treatment. Various schools of medical philosophy have also passed through the various stages of their existence during the three quarters of a century covered by these statistics. They may, therefore, be accepted as very fairly respresenting the normal fatality of the disease in question. It will be noticed that the death rate of all the larger collections of cases is very nearly the same, although they were probably subjected to widely different, possibly diametrically opposite modes of treatment. From this, it may be argued that treatment has but very little influence over the natural course of pneumonia. It is to be hoped that the typical machine doctor may find in this food for reflection, and that he may become possessed of a lively appreciation of his utter powerlessness to materially alter the course of any of our severe essential fevers. In addition to this mortality of 22.5 per cent. arising from the immediate effects of the disease, we have an indirect one of 1.3 per cent. from cases eventuating in phthisis, etc., which, added to that from the disease *per se* makes the true death rate of pneumonia about 23.7 per cent.

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[1] Becquerel, 28 cases, of which 23 were fatal. See table

The following table will show at a glance the material, quantity and quality from which the above deductions have been made.

Table I.—Showing Death Rate of Pneumonia.

AUTHORITY.	CASES.	DEATHS	PER CENT.
Acerbi—Ranking's Abst. No. 28, p. 92	142	16	11.2
Bang.—Ranking's Abst. No. 28, p. 92	54	2	4.0
Baumgartner — Ranking's Abst. No. 28, p. 92	30	3	10.0
Becquerel — Ranking.s Abst. No. 28, p. 92	28	23	82.0
Bell—Ranking's Abst. No. 28, p. 92	81	4	5.0
Bennett—Lancet, Feb. 25, 1865, p. 195	129	4	3.1
Borland — Boston City Hospital Rpts. 1870	190	27	14.2
Bouilland—Ranking's Abst. No. 28, p. 92	173	21	12.1
Briquet—Ranking's Abst. No. 28, p. 92	129	17	13.2
Burkard—Ranking's Abst. No. 28, p. 92	120	2	1.6
Chomel—Ranking's Abst. No. 28, p. 92	152	55	36.0
Cincinnati Board of Health Rpt. 1873, p. 45	34	3	8.8
Cincinnati Board of Health Rpt. 1874, p. 156	123	16	13.0
Cincinnati Board of Health Rpt. 1875, p. 157	103	31	30.0
Cincinnati Hospital Rpt. for 1874 and 1885	124	41	33.0
Cohn—Ranking's Abst. No. 28 p. 92	57	24	42.0
DeBordes — Ranking,s Abst. No. 28, p. 92	90	19	21.0
Dietl—Ranking's Abst. No. 28, p. 29	1,130	122	11.0
Flint—N. Y. Med. Jour. Mar. 1875, p. 290	133	35	26.3
Forget—Ranking's Abst. No. 28, p. 92	32	7	2.0
Frohmiller—Ranking's Abst. No. 28, p. 29	12	0	0.0
Gaudini—Ranking's Abst. No. 28, p. 92	25	0	0.0
Gerhard—Ranking's Abst. No. 28, p. 92	26	1	4.0
Grissolle—Ranking's Abst. No. 28, p. 92	386	71	19.0
Helbing—Ranking's Abst. No. 28, p. 92	62	5	8.0
Hellis—Clin. Med. Paris, 1824	831	173	22.0
Hutava—Ranking's Abst. No. 28, p. 92	12	0	0.0
Jackson—N. Y. Med. Jour. Mar. 1875, p. 290	51	8	15.0
Juergensen — Ziemssen's Cyclopedia, v. 5	230	88	16.5
Kissel—Ranking's Abst. No. 28, p. 92	112	5	4.5
Lacaze—Ranking's Abst. No. 28, p. 92	42	1	2.5
Laennec—Ranking's Abst. No. 28, p. 92	94	18	19.1
Laennec, Dr. A. of Nantes, Jour. de Soc. Med. la Loire, 1825	40	6	1.5
Leudet—Brit. Med. Jour. Jan. 17. 1863	40	3	7.5
Loomis—Med. Gaz. April 30, 1881 p. 154	255	87	34.0
Louis—Ranking's Abst. No. 28, p. 92	29	4	14.0
MacGregor—Copland's Med. Dic. vol. ii, p. 892	4,027	287	7.0
Marine Hospt. Serv. Rpt, 1873, p. 36	280	47	16.6
" " " " 1875, p. 62	318	29	9.1
" " " " 1876, p. 62	268	33	12.3
" " " " 1877, p. 60	282	47	16.6
" " " " 1880, p. 48	166	35	20.0
Med. His. Rebellion, Part 1, vol. i.	61,202	14,738	24.0
Morehead — Ranking's Abst. No. 28, p. 92	164	43	26.7
Morris—Lancet, (N. Y. ed.) June, 1881, p. 519	35	11	3.4
Muller—Ranking's Abst. No. 82, p. 92	10	0	0.0
Oppolzer—Ranking's Abst. No. 28, p 92	32	5	15.6
Paton—Am. Jour. Med. Sci. Oct., 1870, p. 375	96	2	2.2
Piorry—Ranking's Abst. No. 28, p. 92	30	2	6.6
Rasori—Arch. Gen. de Med. 1824	831	173	22.0
Rasori—Ranking's Abst. No. 28, p. 92	747	164	22.5
Reuf—Ranking's Abst. No. 28, p.92	94	5	5.0
Salarra—Ranking's Abst. No. 28, p. 92	15	0	0.0
Salem Hospt. Rpt. 1877, p. 8	2	1	50.0
Schmidt—Ranking's Abst. No. 28, p. 92	152	20	13.0
Sigmund—Ranking's Abst. No. 28, p. 92	743	104	14.0
Skoda—Ranking's Abst. No. 28, p. 92	163	18	10.0
Stevens—Am. Jour. Med. Sci. Oct. 1870, p. 376	78	5	6.5
Stiertin—Ranking's Abst. No. 28, p 92	150	7	4.6
St. Louis City Hospt. Rpt. 1878, p.63	52	25	48.0
" Woman's " " p.78	17	6	35.0
St. Mary's Hospt. Quincy, Ill. Rpt. 1876	4	1	25.0
St. Michael's Hospt. (Newark, N. J.) Rpt. 1876	29	4	13.0
Stoahml—Ranking's Abst. No. 28, p. 92	30	0	0.0
Thiele—Ranking's Abst. No. 28, p. 92	6	0	0.0
Thieleman—Ranking's Abst. No. 28, p. 92	110	12	11.0
Thomas — Am. Jour. Med. Sci., Oct. 1870, p. 376	106	3	3.0
Thomas, J. P. Rich. and Louisville Med. Jour. Apr. 1876	68	1	1.9
Tommasini—Delle Peripneum, etc.	115	14	12.1
Trousseau—Ranking's Abst. No. 28, p. 92	52	2	4.0
U. S. Army, 1870-1874, 4 years Cir. No. 8	791	110	14.0
Varrentrap—Ranking's Abst. No. 28, p 92	23	1	4.0
Vienna Hospital, " " " 28, p. 92	6,798	1,966	24.0
Vienna Hospital, Physician and Surg. Apr. 1879	7,942	1,946	24.5
Voght—Bul. Gen. de Therap. Jan. 1860	56	4	8.0
Witherspoon — Am. Jour. Med. Sci. Oct. 1870, p. 376	72	2	3.0
Wittich—Ranking's Abst. No. 28, p. 92	23	0	0.0
Woman's Hospital Philadelphia Rpt. 1876, p. 12	4	0	0.0
Woodson—Am. Practitioner, Mar. 1870, p. 289	20	2	10.0
Wassidls.—Ranking's abst. No. 28, page 92	112	4	3.5
Wucherer " " " page 92	90	1	.9
Wunderlich " " " page 92	237	25	10.5
Wells—Cincinnati Lancet and Clin. March 29, 1879, page 271	100	18	18.0
Wells—Unpublished	200	29	15.0
Total	92,643	20,594	22.4

We, hold, therefore, in common with most modern writers that ordinary pneumonia is an essential disease—a true pneumonic fever—and not *pneumonitis*. Now, although this is true of the disease as a rule, we should not overlook the possibility and even the probability of the occurrence of a certain proportion of cases of simple acute (or chronic inflammation of the lung—pneumonitis—of which the above case is an apt illustration. Here we have a young woman attacked with inflammation of the upper air passages from the ordinary cause of *cold*. The inflammation gradually entended downward, attacking in turn the larynx, trachea, larger and smaller bronchial tubes, and, finally, the air cells and pulmonary parenchyma of a portion of one lung—acute pneumonitis.

Our typical single idea men may doubt the accuracy of the observation, and point out that every portion of the lungs should have been simultaneously attacked by the descending inflammation. To the thoughtful and observant student of respiratory diseases this objection has no force, for he knows full well that a symmetrical extension of any local inflammatory disease of the air passages is the exception, and not the rule. Take for example, a case of acute laryngo-tracheitis. Open the trachea and larynx and what will be the morbid appearance found. The upper orifice of the larynx will be found nearly or quite obliterated from submucous infiltration; the walls of the pharynx may be universally inflamed, but, from this point, a bright red streak running down *one side* of the trachea, and entering at one of the main branches of the bronchial tree, will be the most probable condition.

We arrive at the conclusion, from the above considerations, that we have to deal *generally* with an essential *febris pneumonica* in which the systematic affection and the local lesion bear no definite relation to each other; and *rarely* with a true *pneumonitis* in which the constitutional symptoms bear a definite relation to the amount of pulmonary inflammation.

CASE II.—Mr. H. A., a farmer, aged 37, twenty-two days sick with typhoid fever, was taken November 30, 1880, with pneumonia of the entire right lung. I saw the patient at midnight in consultation with his attending physician, Dr. A. R. Greer, of St. Johns, O. He had a frequent cough, moderate pain, and very distressing dyspnœa. There was comparative dullness over the entire right side of the chest, and on this side the crepitant rale was everywhere to be heard. There was besides active delirium, a dry and fissured tongue, sordes on the teeth, tympanitis and gurgling in the region of the ileo-cœcal valve, ocher diarrhœa, a moist skin, and subsultus tendinum. He passed his urine in bed, and was continually picking at the bed clothes. Pulse 100, respiration 30, and temperature 101.5.°

On the following night the respiratory murmur and percussion note over the upper and lower lobes of the right lung was almost if not quite normal, while the middle lobe was completely hepatized—dullness and tubular breathing. He expectorated three times since previous visit, once in my presence, the sputæ being very tenacious and rusty colored—characteristic pnemonic sputæ. Pulse 104, respiration 26, and temperature 101.5.°

It would be tedious and unnecessary to follow the record from day to day as the case progressed toward recovery, suffice it to say that on the 7th day of the lung complication—the 29th of his illness—the temperature fell to 96,° and that six days later, on the 35th day of his illness he was declared convalescent. In due time he had regained his former good health.

In observing this most interesting case, we had the pleasure of beholding a most important pathological process—the abortion (partial as to the case, but complete so far as certain parts were concerned) of a pneumonia. We saw passing before us in the deeper organs of the body conditions similar to those we frequently see upon the exterior.

A patient presents himself in our consulting rooms with all the signs and symptoms of acute inflammation of the entire forearm. There is pain, heat, redness, swelling and disordered function. On the morrow he returns. There is a decided change in the condition of that forearm. The upper and lower thirds are but little swollen, and there are in these parts scarcely any pain, heat or redness. But in the central portion of the forearm, all these conditions are increased, and an elevated spot indicates the place where the abscess will point. On the next day the abscess will have pointed and will be found surrounded by an areola of inflamed cellular tissue, whilst all the other parts of the forearm have resumed their normal condition.

Such pictures have no doubt been often seen by every practitioner of medicine, but, alas, have been, only too generally passed by as being a pathological process of too commonplace a nature to be worthy a second thought. To the thoughtful student of nature, however, such a process must have illustrated in the graphic manner one of the most interesting, as well as important pathological problems with which we have to deal.

If inflammatory action may be aborted, and if inflammatory effusions may be dispersed, as if by magic, in the superficial parts of the body, is it not altogether reasonable to conclude that the same may take place in the inflammations of the deeper seated structures as well?

The abortion of a pneumonia, although acknowledged by many of our most enlightened authors,[1] does not have due consideration accorded it by our text books on practical medicine. It is true that in taking up the subject of the abortion of pneumonia, we are, pathologically speaking, trenched upon dangerous ground. It is acknowledged on all sides that a pneumonia in its second stage may vanish in a single night, must needs be backed up by such a formidable array of well-observed cases as the experience of but few practitioners of the healing art can supply.[2]

It would seem that the abortion of a pneumonia complicating low fevers is not at all rare, for Stokes,[3] in the epidemic of typhus fever which raged in Dublin during the winter of 1854-55, saw many examples. It was noted that all the symptoms and signs of the first stage of pneumonia were suddenly developed, continued but a short time, and subsided again with singular rapidity. Silently, rapidly and spontaneously was the disease developed, and equally as silently, rapidly and spontaneously did it disappear.

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[1] Stokes, (*Med. Times and Gaz.*) May 26, 1855. Trousseau, Med. Times and Gaz.. June 16, 1855. Sieveking, Brit. Med. Jour. Feb. 22, 1868. Laennec, Dis. Chest. and Mediate Auscultation, N. Y. 1830. Copland, Med. Dic. N. Y. 1855, vol. ii. p. 882. Flint, Prac. Med. 3d. Phila. 1868, p. 164. Drake, Dis. Int. Valley of N. A. (2nd series) Phila. 1854. p. 858, and many others.

[2] Trousseau (*Med. Times and Gaz.* June 16, 1855) gives the case of a woman who was admitted into the hospital with fever, redness and swelling of the left leg and foot, and severe pain in the entire left side of the body. The left side of the chest was especially painful, but no abnormal sounds were audible. During the night cough came on, and on the following day the signs of pneumonia were heard and *two or three pneumonic sputæ were expelled.* On the following day all the signs of pneumonia had vanished.

[3] Med. Times and Gaz., May 26, 1855.

Case III.—Mrs. M. L——, aged 51, was taken May 6, 1880 with a chill, followed by a fever, cough, pain in the right side, expectoration of bloody sputa, etc. Being ten miles from home, she was removed on the second day in an open wagon to her residence. I saw her on the third day, and found a fully developed pneumonia of the lower and middle lobes of the right lung. She coughed very frequently, but the expectoration was scanty. She had nausea, had vomited several times, was perspiring freely and had diarrhœa. The pulse was 108, respiration 32, and temperature 102.7.° Two days later, at 10 A. M., (after a very restless night) whilst sitting up in bed, she suddenly became faint and her breathing became greatly accellerated, with dyspnœa and cyanosis. I saw her four hours later. She was unconscious, with a pulse of 128, respiration 60, and temperature 106. She died comatose next morning, at 5 o'clock.

This case is pregnant with many important facts, but it has been inserted here for the purpose of calling particular attention to the dangers attending the removal of pneumonia patients. I have in my note book the records of quite a number of cases of pneumonia that had undergone removal to considerable distances subsequent to the establishment of the pneumonic process. The mortality shown by these cases has been frightful. Young men and women, in the prime of life, having under ordinary conditions, the very best prospects of recovery, have been removed whilst sick, and have died. I know of no reason why it should be so, but I am confident that the removal of a patient sick with the pneumonia is a very hazardous proceedure, and one which should be peremptorily forbidden by the physician under every and all circumstances.

As further illustrating this point let me state a few leading points in the following cases:

Case IV.—C. W——, a farm laborer, aged 23, was attacked, January 4th, 1881, with pneumonia. On the second day he was removed on a sled to his father's house, a distance of two miles. He died on the 14th day after a very severe illness. Seen in consultation with Dr. Faust, of New Port, Ohio.

Case V.—P. B——, a farmer, aged 30, rode twelve miles in the hot sun, in an open wagon, on the third day of a pneumonia. He died on the 15th day.

Case VI.—P. J——, a teacher, aged 38, was attacked Feb. 6, 1881 with left sided pneumonia. On the second day he was removed through the intense cold, to his residence, five miles distant. He died on the ninth day. Saw the case in consultation with Dr. Greer, of St. Johns, O.

Case VII.—J. W——, a farmer, aged 53, was taken May 5, 1879 with right sided pneumonia. On the fourth day he was taken a distance of twelve miles. He was made much worse thereby, but finally recovered.

Case VIII.—S. B——, a farmer, aged 35, rode in a sleigh a distance of fourteen miles on the second day of a pneumonia. He died on the 11th day. Seen in consultation with Dr. Faust, of New Port, O.

Case IX.—J. L——, a boatman, aged 30, was taken a distance of twenty-two miles in the hot sun in an open wagon, on the second day of a pneumonia, and returned the same distance and in the same manner on the following day. He died two days later.

Instances similar to the above might be multiplied from my own individual experience, and every reader of these lines, can without doubt, recall cases occurring in his own field of observation with a similar issue.

Case X.—Mrs. T. F——, aged 53. This lady is a frequent subject of pneumonia, having previously experienced five different attacks. During the night of Oct. 20, 1880, she experienced a severe chill, followed by all the symptoms and signs of right sided pneumonia. The attack was a very severe one, marked by delirium and extreme restlessness, but by the eleventh day she could be declared convalescent. The point of interest about the case, however, was *the beginning of the pneumonic process in the middle lobe from whence it gradually spread to the lower one.*

When pneumonic inflammation attacks consecutively two or more lobes of a lung, it almost invariably "begins below and extends itself upwards," the opposite mode of progress is very rarely witnessed. The case above narrated is the only example furnished by the records of over three hundred cases of pneumonia. That pneumonia almost invariably begins in the most dependent parts of the lungs, and gradually creeps upward was first pointed out by Laennec. In this connection the reader should bear in mind that the lobes of the lungs gradually change their position as age advances, and that in old age they no longer bear the same relation to each other, or to the walls of the chest that they did during adult life. These changes in position are by no means regular, but are always considerable and sometimes remarkable. In the right lung the lower lobe creeps up behind the middle lobe, which is pushed forward and downward. In many cases, the middle lobe forms the most depending portion of the lung. In the left lung the lower lobe rises up behind the upper one which is found in front. This change may be so radical that the lower lobe occupies the highest point in the side of the thorax. Thus it will be seen that a pneumonia of the apex may really have its seat in a lower lobe.

Pneumonia, as is the case in all lung disease, attacks by preference, the right lung, as shown in the following table.

We may consider that in round numbers the right lung alone is attacked in 50 per cent., the left alone in 30 per cent. and both together in 20 per cent. of the cases of pneumonia. This I think, accords with common observation, although the experience of several eminent writers of the past generation caused them to hold opposite views.[1]

Case XI.—Mrs. C. G——, aged 27, six months advanced in her third pregnancy, was attacked

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[1] Andral. Clin. Med.. t. ii, p. 204. Chomel, Dic. de Med. t. xvii, p. 209 Broussais, Examen etc., t. ii, p. 720. Frank, De Cur. Hom. Morb. t. ii, p. 132.

AUTHOR.	REFERENCE.	CASES.	RIGHT L. PER CENT.	LEFT L. PER CENT.	DOUBLE PER CENT.
Andral	Clinic Medicine, t. ii, p. 317	204	59	28	13
Bennett	Lectures on Clinic Medicine, p. 698	129	48	28	24
Borland	Boston City Hospital Reports 1870, page 112	186	33	23	44
Chomel	Dictionary de Méd. t. xvii, page 508	59	48	25	27
Flint	Practical Med., 3d ed. Philadelphia 1868, p. 176	121	53	30	17
Forbes	Copland's Med. Dict. N. Y. 1855, vol. ii, p. 879	1,131	50	30	20
Fuller	Fuller on the lungs, page 243	139	55	37	8
Fuller	" " " " 243	1,710	53	30	17
Williams	London Lancet, September 7, 1861, page 224	20	75	20	5
Author (Wells)		300	47	36	17
Total and Means		3,999	48	31	21

April 21, 1880 with right sided pneumonia. At 7 P. M. the pulse was 118, respiration 24, and temperature 101.6.° During the night she slept from twelve to four, being awakened by commencing labor pains. At 6 A. M. pulse 109, respiration 24, and temperature 101,° the os was dilated to the size of a dollar, the membrane had just ruptured and the cord and right shoulder presented. The faulty position was rectified and a dead fœtus was at once expelled, followed in a few minutes by the placenta. The pulmonary inflammation, beginning in the lower lobe gradually crept up until the entire lung was affected. The case was further complicated by a metroperionitis. On the seventh day there were well marked tracheal rales, delirium and a tendency toward a comatose condition. By the 13th day, however, she was convalescent and soon regained her ordinary health. [1]

CASE XII.—Mrs. A. C——, aged 26, seven months advanced in pregnancy, was taken March 15, 1880 with pneumonia of the lower lobe of the left lung. The case ran a very severe course and on the seventh day I was requested to see her with her attendant, Dr. Hammer, of Berlin, O: She was delirious and had a dark and dry tongue. Pulse 126, respiration 36, and temperature 102.5.° On the following day she entered upon her convalescence and carried her child a full term.

CASE XIII.—Mrs. H. F——, aged 25, two months advanced in her second pregnancy, suffered an ordinary attack of right sided pneumonia, recovering in ten days without abortion.

CASE XIV.—Mrs. J. B. B——, aged 40, two months advanced in her sixth pregnancy passed through a mild right sided pneumonia, recovering in seven days without abortion.

CASE XV.—Mrs. J. S——, aged 35, eight months advanced in her sixth pregnancy was seen in consultation just as she was entering upon convalescence after pneumonia of the lower lobe of the left lung. She carried her child to full term.

CASE XVI.—Mrs. S. S——, aged 20, married and seven months advanced in her first pregnancy, was taken January 11, 1879, with irregular chilly sensations, followed by fever, cough and pain in the right side. I first saw her on the sixth day, and an examination revealed a consolidation of the lower lobe of the right lung. She had a cough, had some pain, and expectorated prune juice sputæ. Pulse 126, and temperature 102. On the seventh and ninth days the pulse rate was 90, and the temperature 96° and 95° respectively. On the tenth day she was delivered prematurely of a living child. The pulse was 100, temperature normal and the inflamed lung resolving. Two days later there was an access of the worst case of diphtheria that I ever saw that recovered. From this she gradually recovered and in a month was entirely well.

CASE XII.—Mrs. F. R——, aged 35, married, and eight months advanced in her eighth pregnancy was taken December 2, 1878, with a pneumonia affecting the upper lobe of the left lung. The disease pursued an ordinary course with the temperature not above 102,° until the sixth day when she was delivered prematurely of a living child. There were no premonitions of delivery. She had been sleeping for hours, was awakened by pains at 3 A. M. and was delivered within ten minutes. On the ninth day their was beginning resolution of the pneumonia and she soon recovered entirely.

CASE XVII.—Mrs. H. W——, aged 22, eight months pregnant with her second child, was taken December 23, 1878, with pneumonia of the right lung. The disease pursued a mild course and she was convalescent on the eighth day. On the eighth day there were symptoms of threatened premature delivery which were speedily relieved by appropriate treatment.[1]

These eight cases have been introduced for the purpose of illustrating the bearing which pneumonia has upon the pregnant female. As a certain and almost constant proportion of women within the limits of the child bearing age are at all times pregnant, and as pneumonia is no great respector of persons, it must follow that a definite proportion of pneumonic patients are pregnant females. The mutual influences which these conditions exercise, one upon the other, must ever remain a question of the deepest interest. Of 300 cases of which I have records fifty-six were married females, and of these eight chanced to be pregnant. Of these two were two months, one six months, two seventh months, and three eight months advanced in pregnancy. Of these eight cases three were prematurely delivered and five went to full term. All recovered.

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[1] This lady is at the time of writing, in the last stage of pulmonary consumption. An extended history of her case with a discussion of the many interesting points connected with it, may be given to the profession at a future time.

[1] The last three cases were reported more fully by the writer in the Cincinnati LANCET AND CLINIC, March 29, 1879, p. 244.

Grisolle[1] long ago made the statement that more than one half the pregnant women attacked by pneumonia abort or are prematurely delivered, and subsequent experience only confirmed him in this belief.[2] My statistics show a somewhat smaller proportion, but the number of cases is too limited to serve as a basis for correct conclusions.

Gusserow[3] and Ringe[4] have made some exhaustive studies concerning the conditions under which abortion or premature delivery occurs in the acute infectious diseases, and have come to the conclusion that the increase in the body heat is the one exciting cause. They found that a temperature of 108° certainly caused the death of the child in utero, with consequent delivery; and that any temperature above 104° was pretty sure to be followed by the same result. With the multitude of possible causes at play, each of which would be as likely as the increase of temperature to occasion delivery, it must be difficult if not impossible to isolate the one potent factor, or, what is more probable, to give to each of many agencies their individual due. Although a high temperature may be one of the causes leading to abortion in the pregnant female affected with pneumonia, yet I am convinced that until a vast deal more proof is offered us, we ought to return a verdict of "not proven." In my cases there were two premature deliveries in subjects with a temperature of not above 102,° and there were two others going to full term, who recorded temperatures of 104,° so that there are probably other and more potent conditions than a high temperature, which determine an abortion or premature delivery in pneumonia.

It would be very interesting and important to have answers, based upon extensive statistics, to the following questions:

1st. What proportion of the entire population is pregnant?

2nd. What proportion of adult women are pregnant?

3d. What proportion of pregnant women are attacked with pneumonia?

4th. What proportion of pneumonia patients are pregnant?

5th. What proportion of pneumonic pregnant females abort or are prematurely delivered?

6th. What are the causes of abortion or premature delivery in the pneumonic pregnant females?

CASE XIX.—M. R——, a healthy young woman, aged 22, experienced the ordinary symptoms of a cold in the head with pain in the ear, notwithstanding which she went sleighing with her beau. Returning after a few hours, she complained of pain in both ears. She had fever without chill and took to her bed. I saw her in consultation on the fifth day. She had a cough, expectorated rusty sputa, was dull, delirious, and quite deaf. She had had epistaxis, and the tongue was dry and dark and the teeth were covered with sordes. There were no abdominal symptoms. There was dullness and tubular breathing heard over the lower lobe of the left lung. During the following night the right ear discharged and on the succeeding day the left one did the same. All the symptoms rapidly subsided and she soon regained her health, and at a later date her hearing also.

Otitis media is one of the most painful complications of pneumonia. This complication is not a very frequent one, although by no means rare. Every practitioner of medicine must have noticed how frequently inflammation of the naso-pharyngeal mucous membrane accompanies bronchitis and pneumonia.

The Eustachian tube, acting as a drainage for fluids accumulating in the mastoid and tympanic cavities, and as an equalizer of the atmospheric pressure within and without the same, affords a ready way for the extension, by continuity, to these cavities, of any inflammation affecting the naso-pharyngeal mucous surfaces. Text books give no information on this subject, but the unfortunate patient will quickly inform the physician of its importance. In these cases the cerebral and typhoid symptoms are apt to lead the careless diagnostician astray.

CASE XX.—Mrs. E., aged 60. Had had a slight cough and diarrhœa for a week, when on April 20th, 1881, she felt chilly, with flushes of heat, and was compelled to take to the bed. Her cough became more severe, she had an acute pain in the left side and she expectorated characteristic pneumonic sputa. I saw her a few hours later and detected beginning consolidation of the lower portion of the left lung. The lung affection steadily advanced upward until by the third day the entire left lung was involved. The diarrhœa continued and became dysenteric and very foul, with involuntary evacuations of both feces and urine. She became drowsy, delirious and very weak, and for many days there were loud tracheal rales. There was an abundant eruption of herpetic vesicles about the mouth, nose and upon the cheeks, with a dry and dark tongue, and sordes upon the teeth and lips. From the very first the lower jaw would "drop." There was frequent epistaxis. Patient died on the fourteenth day.

Ever since the introduction of the clinical thermometer into practical medicine, physicians have desired to make it, in a measure, a sure guide in the diagnosis of disease, and charts have been constructed intended to show, graphically, what their authors are pleased to call the normal temperature curve of maladies, and, among these, of pneumonia. A careful study of several hundred cases of pneumonia has convinced me that such generalization as applied to pueumonia are premature at the least.

It has always been an interesting question as to what were the limits of temperature, above and below the physiological zero, endurable by the human body without causing death. That a temperature a few degrees above or below the normal is injurious to the system has been taken for granted by almost every one, and probably with insufficient reason.

Wunderlich's[1] "dead line," of 107·6° has been so often transcended with impunity, that this

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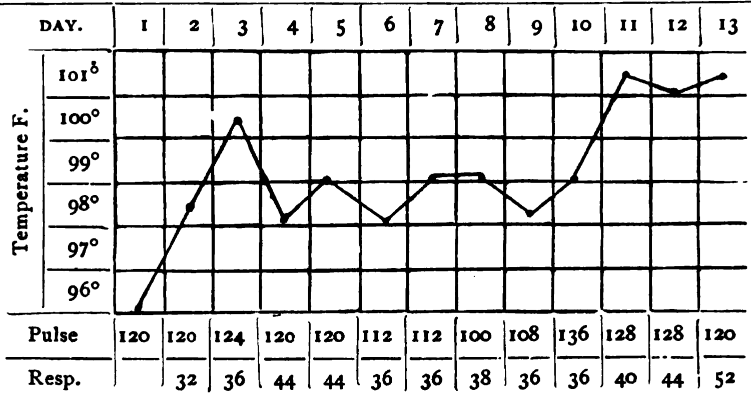
[1] Fraite de la Pneumonie, Paris, 1841, page 470.

[2] Arch. Gen. de Med. January, 1850.

[3] Berliner Klin. Wochenchr No. 17, 1880.

[4] Volkmann's Klin. Vortsage, No. 174.

[1] Thermometry, London, 1871, page 99.



limit is by no means so significant as it once was. To show to what extent "hyperpyrexia" has been recovered from, I have constructed the following table.[1]

TEMP.	DISEASE.	REFERENCE.
107°	Convalescence after measles..........	Iliffe, Lancet, November 23, 1878
108°	Ovarian Pain..........	Donkin, Lancet, March 15th and 22d, 1879
108°	No Diagnosis, two cases..........	Smith, quoted by Donkin, volume cit.
108.1°	Sunstroke..........	Mason, Boston Medical and Surgical Jour. March 20, 1879.
108.2°	Typhoid Fever..........	Kartulis, Lancet, April 26, 1879.
109.2°	Sunstroke, two cases..........	Abbott, Boston Med. and Surg. Jour., July, 1878, and Mason l. c.
110°	Cerebral rheumatism..........	Da Costa, American Jour. Medical Science. January, 1875.
110°	Intermittent Fever..........	Macintosh, British Medical Journal, December 20, 1879 page 978.
111°	Convalescence from Typhoid Fever..	Donkin, volume cit.
111°	Injury to Spinal Cord..........	Brodie, British Medical Journal, December 20, 1879, page 978.
111.6°	Convalescence from Typhoid Fever..	Donkin, volume cit.
112°	Synovitis..........	" " "
112°	Painful Stump..........	" " "
113°	Enteric Fever and Pneumonia..........	" " "
115°	Abdominal Pain..........	" " "
115.8°	No Diagnosis..........	Orrnerod, Lancet, November 9, 1878.
117°	Pyonephrosis..........	Donkin, volume cit.
120.8°	Abdominal Pain and Swelling..........	Mackenzie, Lancet, November 5, 1881.
125°	Injury to Spine..........	Teale, Lancet, Mar 6, 1875, and Med. Times and Gaz. Mar 20, 1875.
128°	Phthisis..........	Mahomed, Lancet (New York) January, 1882, page 35.

In the face of the above facts is it not straining the point to say that a high temperature is, *per se* a cause of death in disease?

In pneumonia we are informed that the temperature runs a very definite course. "A high temperature is maintained for some time, a so-called crisis comes and there is a very rapid defervescence."[2] But this is by no means the rule, nor can the careful observer make one case in ten fit the charts given by Bartholow (Prac. Med.) and other systematic writers. I have tracings of the temperature charts of several hundred cases of pneumonia, collected from the published writings of others and from my own observation. These show in a graphic manner the character of the shifting sands forming the foundations upon which authors, after too hasty generalizations, have erected their superstructure of thermometry in pneumonia. Any one looking over these charts must acknowledge that he has before him a howling and trackless wilderness of unmeaning lines. From these charts I have constructed the following table showing the percentage of cases recording a given temperature for each day of the disease.

Can any unprejudiced person examine the facts here shown and say that pneumonia has any definite temperature curve? The most that can be said is that in general the body heat is elevated from two to five degrees above the normal; that convalescence is usually ushered in by a rapid fall of the temperature to, or below, the normal; that in very grave cases the temperature may reach or even exceed 104°, but that this "hyperpyrexia" is not necessarially fatal; that some cases run their course with a normal or but slightly elevated temperature; and finally, that others, not numerous but still worthy of mention, are characterized by a sub-normal temperature.

Physicians have been so absorbed in the recording of temperatures above the normal of the human body, that but little attention has been given to the markings of the thermometer below the physiological zero. It is no less true, however, that occasionally cases of various acute diseases, as for example, inflammatory rheumatism,[3] typhoid fever,[4] malarial fevers,[5] pneumonia,[6] etc., run their entire course with a temperature below the normal of health. This fact is not mentioned in the ordinary text-books and is generally unknown, or if recognized is not fully appreciated. Since my attention was first called

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[1] No attempt has been made to make this table complete.

[2] Waters, British Medical Journal, Dec. 20, 1879, p. 978.

[3] Anderson, Cincinnati Lancet and Clinic, Oct. 2, 1880.

[4] Anderson, *loc. cit.*

[5] I have the records of a case of malarial fever in which the exacerabations were marked by a fall of the body heat to the extent of from two to three degrees.

[6] Anderson, *loc. cit.*

DAY.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
107°						3								
106°					2									
105°		3	2											
104°	7	3	6	3	4	6	3					6		
103°	13	19	22	20	13	18	13	5	15	15	2			
102°	13	30	28	17	29	8	15	17	9	8	4			10
101°	40	24	14	25	9	16	13	13	9	11	4	12	16	10
100°	13	10	8	3	7	6	13	10	12	16	17	6	16	
99°			9	12	7	19	9	7	15	2	17	12	4	20
98°	13	8	7	13	15	6	8	23	19	40	34	38	48	50
97°			2	7	9	9	6	17	15	11	20	12	16	10
96°		3	2			6	15	3	3	8		12		
95°					4	3		5						
94°					2	5	3		3	2	4			
Total %	100	100	100	100	100	100	100	100	100	100	100	100	100	100

to this point, in the spring of 1879, I have examined the records of several thousand cases of acute febrile diseases, and I find a sub-normal temperature by no means so rare as might be expected. Parenthetically, I would suggest that the ordinary definition of "fever" be so amended that the existence of febrile diseases marked by a sub-normal temperature would be fully recognized. In rather an extended search through text-book and periodical medical literature I have been able to find but two references to sub-normal temperatures in pneumonia.[1] I have met with several cases in my practice and would gladly give them in detail, were it not for the fact that this paper has already assumed unreasonable proportions.

OBSERVATION ON CATARRHAL FEVER.

Read before the College of Physicians, Philadelphia, Pennsylvania, May 3. 1882.

By J. M. Da Costa, M. D.
Professor of Practice of Medicine in Jefferson Medical College.

Those engaged in active medical practice must have been struck with the widespread prevalence of an epidemic of catarrhal fever presenting many curious features. As it is only by a study of all such epidemics that we shall ever learn fully to understand this dissimilar malady, I trust it may not prove without value to record before the college my individual experience with it.

The disorder begins almost invariably in a sudden manner, sometimes with a chill, quite as often without it. I have known persons well in the afternoon, and in the evening with a decided fever, and suffering all the discomforts of the catarrhal malady. Among the first signs of this are pain in the throat, and a feeling as if it were filled up, yet looking at it nothing is seen but redness and some relaxation.

Fever is by this time developed, at first of only moderate intensity and with a quick but very compressible pulse. Dry cough soon becomes a feature, occurring not infrequently in paroxysms, and now and then combined with loss of voice, and with difficulty in swallowing. The chest walls are sore, and the cough is painful. Frequent, rather difficult breathing, not associated with any marked physical signs except feebleness of respiratory murmur, is a common symptom. As the malady progresses, more obvious signs of bronchial catarrh may happen, and harsh breathing and dry rales be found on listening to the chest. But here and there will be a spot still marked by feeble breathing, a spot of seeming congestion of the lung and of impaired expansion. Scanty tenacious sputum, blood streaked, is perhaps noticed to become more copious and purulent only in cases in which the bronchical catarrh is prominent. The eyes are, as a rule, injected or watery, but nasal catarrh does not exist. Yet late in the disease it may come on, and the malady pass of, in the language of the patient, by a bad cold in the head. Besides these catarrhal symptoms, are pains,—chest pains, pains in the neck and scalp, pains in the loins and limbs, the chest pains are most peculiar and severe. They are sharp and like pleurisy, indeed they are so regarded. But only impaired respiration exists, friction does not relieve save in the rarest instances; and the character of the pain, its having its seat in the chest walls, is shown by its transferring itself with rapidity from one side to the other.

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[1] Anderson, *loc.cit.* and Jolly, Lancet and Clinic, Oct. 2, 1880.

The state of the skin is at first dry and harsh. It becomes soft and clammy as the disorder advances, and copious sweats, especially at night are common. The face at the outset is apt to be flushed, and what has particularly struck me in this epidemic as a feature which I cannot recall to have noticed so strikingly before, is a curious irregular mottling of the surface. This is very marked on the neck and breast, and might easily cause the case to be mistaken for scarlet fever or for German measles. But when closely looked at, it is seen how the capillary injection is really quite unlike the eruption of either.

As temperature observations on catarrhal fever are very imperfect, I recorded whenever a good opportunity offered as many as possible. Here is a case in which, with the aid of a very intelligent nurse, they were made three or four times daily, and begun a few hours after the first symptoms had manifested themselves.

1st day, 2:30 a.m., 102.2°; 6:45 a.m., 190.8°; 8 p.m., 101°.

2d day, 11 a.m., 100.8°; 9 p.m., 101.6°.

3d day, 2 a.m., 104°; 10:30 a.m., 101.5°; 3 p.m., 101.5°; 6 p.m., 103°; 9 p.m., 105°.

4th day, 7 a.m., 101.5°; 9 a.m., 99.5°; 11 a.m., 100°; 6 p,m., 100°.

5th day, 11 a.m., 99.2°; 9 p.m., 99.6°.

6th day, a.m., 99°.

7th day, a.m. 98.5, no evening rise.

This temperature was the highest I have met with in an uncomplicated case. It attained its height on the third day, and is seen to be irregular. In truth, irregularity of temperature is one of the characteristic features. The temperature is apt to be irregular until the whole disorder markedly declines, when it by gradual degrees, but in the space of a day or two, returns to the normal.

Next to the catarrhal and febrile symptoms the gastro-intestinal claim attention. Disgust for food, pasty tongue, are very usual, and attacks of diarrhœa not unusual. In some cases, indeed, the intestinal catarrhal symptoms are far the most prominent, and it may be that only with their subsidence the bronchial catarrh appears. Nor is it always a simple diarrhœa. Seizures bespeaking an irritation of the large intestine, diarrhœas soon merging into dysenteries form quite a fair proportion of the cases. The urine is high colored, scanty, but free from albumen, even in cases with a temperature of 105°. Only in instances of most marked pulmonary congestion have I known it to contain albumen, and then but in small quantities.

As regards the nervous symptoms, great lassitude, restless nights, and marked hebetude strike us most. With reference to the drowsiness, it is difficult to believe that the patient has not taken opium. Delirium I did not once encounter; nor were the cutaneous hyperæsthesiæ as common as I have noticed them in other epidemics. In truth, on the whole, the nervous phenomena, except the hebetude, were less pronounced.

The duration of the disease is a short one. It does not, unless kept up by complications, exceed a week; nor did I see a fatal case, unless from complications. During the rather tardy convalescence, what forces itself on our attention is the weakness with the decided loss of flesh which so short a disease has occasioned. Of course, I am speaking only of marked cases, and not of the slight ones of a few days' duration that abound as a light manifestation of the epidemic influence. Glandular enlargements are very occasionally met with during the convalescence; more often did I notice inflammation of the antrum with its distracting headache and sense of fulness and pain.

I have just alluded to the complications. Pneumonia, catarrhal and lobar, as the most common. And I am quite clear that the great prevalence just now of pneumonia must be mainly ascribed to the influence of the poison of the catarrhal fever. But this is too large a question to enter into here; as it would equally lead me too far to inquire whether there are any clinical differences which separate these pneumonias of of epidemic origin from those originating from other causes.

Besides pneumonia, I have met with overwhelming attacks of pulmonary congestion. One, for instance, seen with a medical friend in which a bright lad of sixteen perished who had not been ill forty-eight hours; perished with bloody tenacious sputum, temperature of 104.8°, intense dyspnœa, heavily congested lungs terminating in œdema, and amid vanishing pulse, wild struggles for life, and signs of nonaerated blood—in whom nevertheless there were no spots of dullness or bronchial breathing or other evidences of consolidation to be detected. Then I saw with Dr. Herbert Norris in a previously healthy, although rather delicate, young woman, who was seized with catarrhal fever just as her little girl was fairly convalescent from it, rapid phthisis develop itself; primarily in the lung which three or four days after the acute setting in of the catarrhal malady had slowly advanced to imperfect consolidation at its lower part, then more rapidly in the right. On the side first affected a large cavity formed in the lower lobe and became manifest on about the twelfth day of the disease. The whole duration of the case was just three weeks; the only instance of tubercular affection to be traced in the family was that of an aunt.

Another complication I have met with is gangrene of the lung. I saw such a case with Dr. Girvin. The sputum was horribly offensive, the wasting decided; a spot at the upper part of the left lung was gangrenous. These symptoms had set in acutely, about ten days after an attack of catarrhal fever in a young woman before in good health.

There is generally little difficulty in the diagnosis of the epidemic malady; the catarrhal symptoms, the signs of the general disorder, are very manifest. Occasionally a puzzling case happens; as for instance, one in a young girl with nosebleed, with diarrhœa, with high temperature, all within the first week of the disease. Yet the sequence of the phenomena prevented the affection from being mistaken for typhoid fever. The nosebleed came on after the marked catarrhal symptoms; the diarrhœa appeared on the fourth day, and lasted only forty-eight hours; the high temperature continued but for a day, and then there were very irregular variations until, by the eighth day the temperature had declined to normal.

One of the most interesting features of the present epidemic is its infectious character. In one household five members took it in succession; in another, it began with grandchild and ended with grandmother, after two children, mother, and three servants had had it. Nor are those exempt who are confined to the house. One of the most marked cases I encountered was in a lady who has been for five years bedridden; in another, the patient had not been out of doors for ten months.

As regards the treatment I have nothing to add to what is well known. It has to be symptomatic; and in the very young and the very old decidedly supportive. My experience, however, makes me urge the advantage of employing quinine almost from the start; and has taught me that small, repeated doses of opium have a most happy, steadying, and distress allaying influence.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of May 22d, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. H. WENNING, M.D., *Secretary.*

Plaster of Paris in the Treatment of Compound Fractures.

DR. P. S. CONNER made some remarks on the importance of proper treatment in compound fractures. Whilst simple fractures require a two-fold object, viz., first a replacement of the fragments, and secondly, a retention of the parts in position, compound fractures demand special attention to the condition of the lacerated soft parts, and the opening must either remain closed, or left open for the drainage of fluids as fast as they are formed. He would therefore call attention to the best methods of treating compound fractures, enabling one to maintain the fragments in place and permitting either a free drainage or a complete closure of that wound, as the nature of the injury may require.

In his estimation nothing answers this purpose so well as plaster of Paris. It is especially servicable for its early fixation of the parts; it sets quickly and holds well when once adjusted, in this respect surpassing starch, silicate and dextrine bandages, which require considerable time before setting. He had used the plaster dressing in every form: without or with additional support as pasteboard; applying it directly on the skin or over a layer of cotton first spread over the limb; the bandage either closed or fenestrated; or, as in some instances, simply a plaster splint, consisting of a number of layers of the plaster bandage passed up and down the limb lengthwise and secured by a few circular turns to keep the bandage in place. Whichever is most appropriate should be dopted. Many cases will be benefitted by adding a compressing apparatus, that will facilitate drainage and prevent an efflux of blood to the part which is liable to cause inflammation. The speaker had some time ago a severe case of compound fracture of both legs; he emptied the parts by reasonable compression, applied the plaster splint and dressed the wound with boracic acid. For ten days the patient did well but then died suddenly of fat embolism. Another recent case of fracture (a railroad injury) of the lower third of the thigh, which contained two openings large enough to permit an outflow of blood, was treated with compression; a layer of oakum was applied and over this the plaster splint and roller. This patient did well, one opening closed and the other nearly so at the present time.

The objection urged against the plaster is its early soiling. This may be prevented by proper protection of the edges with oiled silk, etc. French surgeons say that in gunshot injuries the fenestrum will weaken the apparatus just at the place where it should be firm. This may be obviated by strengthening the bandage with straps of perforated tin or wood fastened above and below. It is not necessary that the opening be so large as to interfere with the strength of the bandage.

DISCUSSION.

DR. YOUNG said that he admired the dressing as possessing many advantages over other bandages, and that in only few cases it was inapplicable. In some instances it is difficult to maintain it in position, as in the leg when the limb is fat and the splint shrinks rapidly. On this account he had been compelled to abandon the plaster dressing on several occasions. The great advantage of plaster is its fixation of the limb, and he believed that success was due to this fact alone. He had seen good results follow the use of boracic acid as applied by Dr. Walker in the Cincinnati Hospital, but he had seen just as good effects from others dressings as, for instance, cold water and alcohol. The attention to proper drainage is of the utmost importance in compound fractures, for he had seen cases terminate disastrously on account of inattention to this fact.

To prevent soiling of the plaster it is the speaker's custom to fit the dressing to the limb, take it off as soon as set, and then to bake it in an oven, after which it is covered with Japan varnish. A layer of beeswax and rosin may also be spread in the inside of the splint to prevent permeation from the secretions. If we can succeed in protecting the plaster from moisture we have a most perfect dressing.

Shrinkage, if it takes place at all, is from the cloths used in the application of the bandage. It may be prevented by wetting them well previously. The speaker generally took an old blanket and cut it in two pieces, one of which he wetted thoroughly and then sewed it on to the limb; he then saturated the second piece with plaster and applied it over the first. Dry cloth will shrink much more and may thus be productive of harm. Five or six years ago he had a case of compound fracture in the hospital where he applied the plaster dry, the dressing contracted, the limb became inflamed, and had to be finally amputated, in consequence of which the patient died. He was convinced that the man lost his life from the undue pressure of the dressing.

Dr. Osmond remarked that in his specialty, dentistry, he became familiar with the properties of plaster of Paris. He would recommend for rendering it impervious to liquids, a plan which he practiced. Let the plaster first dry thoroughly, if convenient in an oven, and then saturate it well with parafine, which may be melted in a ladle and poured over the plaster, or the mold may be dipped into the melted parafine. It gives it a peculiar marbled appearance, and is not acted upon by acids or alkalies.

Dr. Conner said that both of the preceding speakers had spoken of removing the plaster and then drying it in an oven. Now that is just what ought to be avoided; after the plaster is once set it ought not to be touched. No matter how carefully it is removed it will not fit as well afterwards as when first put on. For this very reason the plaster roller is so advantageous, as it adapts itself most perfectly to the part to which it is applied.

If parafine is to be applied, it may be done after the plaster is thoroughly set by pouring it on the substance, guarding however, against burning the skin underneath. But oiled silk wrapped around the limb before the plaster is applied and its edges turned around the edges of the fenestrum will also secure a clean dressing.

Dr. Young replied that only in certain cases it was necessary for the bandage to be impervious. In order to dry the plaster quickly it is not necessary to lose much time. After the dressing is once molded to the limb it takes but a few minutes to set, it may then be removed to be dried and immediately put on again, so that there is scarcely any time lost in the whole procedure.

Dr Walker said that as far as the efficiency of the plaster dressing is concerned he could only corroborate what was claimed for it by Dr. Conner. He would therefore confine his remarks to the use of boracic acid in compound fractures. In the Cincinnati Hospital he used it in nine cases of compound fractures, where the injury was both great or small. He found it to possess these three advantages: 1st. It keeps the wound perfectly clean, 2nd. It prevents the dangers of of pyæmia, and 3d. As a consequence, it lessens danger of the patient. It takes the place of the Lister dressing, and presents this great advantage over the latter, that it need not be removed. It does not become offensive; the powder may be dusted on dry, and besides being a good antiseptic does not interfere with the immobility of the dressing.

Dr. Ranshoff remarked that the advantages of plaster of Paris are almost universally admitted. In a serious compound fracture it is just the proper thing. The only difference of opinion exists as to the method of application. Three or four years ago the closed plaster bandage was mostly used. This has been discarded for good reasons; for when the limb is entirely encased we may have shinkage, and all objections urged for this reason, therefore, apply only to this form of the dressing. With the Bavarian dressing, though we may have shrinkage, we can fill out the gaps with cotton or oakum. Where the whole limb is to be immobilized, the Bavarian dressing ought not to be used, but the roller splint as described by Dr. Conner.

Boracic acid he considered a good dressing, but for himself wanted nothing better than a solution of carbolic acid in glycerine and iodine. He had treated a number of bad cases with extensive laceration, and attained complete recovery without the boracic acid.

Dr. Clark said that he had lately seen good results in Vienna with the plaster dresssing, oiled silk and iodoform.

Dr Seely thought that a great mistake is often made in unnecessarily disturbing and irritating wounds by carbolic acid. We must endeavor to check suppuration, and for this reason boracic acid is of so great value. This agent must be used at once and the opening of the wound filled with it, and only when necessary ought it to be cleaned with cotton, otherwise it ought not to be disturbed. In suppurative inflammation of the ear, it had proved more valuable in his hands than anything else. Boracic acid keeps the ear dry and clean and is to be dusted on the parts in its dry form. In localities where this cannot be done, he would inject a solution of boracic acid and alcohol which would allow the alcohol to evaporate depositing the boracic acid.

Selections.

MEDICINE.

Lectures on Inflammation.—Delivered before the Royal College of Physicians, by J. Burdon Sanderson, M.D., LL.D., F.R.S., Professor of Physiology in University College, London.

Lecture III., Part II.—Etiology of Inflammation.

We have now, I think, clearly before us the phenomena of the inflammatory afflux. It so resembles a reflex action, in the way in which the vessels of an irritated part respond to the stimulus, that the view which must naturally suggest itself is that of its reflex nature. To come to a conclusion as to whether it is so or not, let us first look at the question from the purely physiological side. There are vascular reactions which resemble the inflammatory very strikingly in their character, about which we know that they are reflex. To what extent does that similarity indicate identity of mechanism? One of the best known of these instances is that of the submaxillary gland. In 1851, it was discovered by

Claude Bernard (*Lecons sur la Physiologie et la Pathologie du Systême Nerveux.* Paris, 1858, vol. ii., page 144), that the influence of the lingual nerve on the secretion of that gland, which Ludwig had made known by his experiments in 1851, is really due to the chorda tympani; and that this remarkable nerve has two distinct afferent functions: that, on the one hand, it presides over the secretion of the gland; on the other, over the circulation of blood through its vessels, in such a way that, when the chorda tympani is excited electrically, the gland reddens; vessels, before invisible even with a lens, becomes easily distinguishable; the veins fill with blood (which, instead of being crimson, is scarlet), pulsate like arteries, and, if cut, spirt also like arteries.

Now it is quite clear that John Hunter would have thought of this experimental fact, if he had seen it. He would have at once recognized its analogy to the inflammatory flush, and would have explained it by reference to what he called a "common principle in the animal machine"—namely, that vessels become large in proportion to the necessity of supply. In the sixty years that had passed since his death, that idea of Hunter had developed into the doctrine of what was called vital attraction—the doctrine that the distribution of the blood to different parts of the body, or to different organs, is determined by the attraction for the blood which the tissues were supposed to exercise. This doctrine was present to all physiologists at that time, and led Bernard to make various experiments, for the purpose of determining the physiological relation between the two effects observed—namely, increased secretion, and the flush which accompanied it. From the fact that these effects were not really simultaneous, the vascular effects being seen earlier than the increased secretion, he inferred that they were independent; but this was not proved until Heidenhain ("Ueber die Wirkung einiger Gifte auf die Nerven der Glandula Submaxillaris," Pflüger's *Archiv*, vol. v. page 309), profiting by the remarkable property of the alkaloid atropine, in annulling the function of secreting nerves, showed that in an atropinized animal (that is, an animal in which atropine enough had been injected into the circulation to paralyze the secreting mechanism), vascular congestion of the submaxillary gland could be excited, either reflexly or directly, without stimulating it to increased secretion.

Here, then, was a case which might be strictly compared with the inflammatory blush, for it was unmixed with any other physiological effect. To this first example of determination of blood to a part, directly dependent on central influence, many others might now be added from the records of experimental physiology. I will mention only one of them, and that chiefly on the ground that it seemed to offer a rather plausible explanation of the phenomenon which now engages our attention. I refer to the experiments ("Ueber die Erweiterung von Arterien in Folge einer Nervenerregung," Ludwig's *Arbeiten*, 1866, pp. 1-29), of Prof. Christian Loven of Stockholm, with whose charming personal qualities we had many of us an opportunity of becoming acquainted last August. What Lovén discovered was that, under certain easily realized conditions, an active congestion of the rabbit's ear, as intense as the paralytic hyperæmia of Bernard and Brown-Séquard, observed after section of the vascular nerves of that organ, could be determined reflexly—that is, by stimulation of its sensory nerves; and that, in other parts of the surface of the body, similarly localized hyperæmia could be produced by localized stimulation.

I have referred to these instances of reflex dilatation of the blood-vessels in the most cursory way, because, in reality, their bearing on the question immediately before us is only indirect. The really important fact that we learn from them is, that some mechanism exists in the blood-vessels of such a kind as to suggest active dilatation; for, in all of them we see that a few seconds after a stimulus, of which the influence is received, whether reflexly or directly through a cranial or spinal nerve, the vessels dilate. Now, at a period not very remote from the present, such an action appeared to a great many physiologists impossible; it seemed impossible, I mean, that a blood-vessel could be acted upon by stimulating its nerves otherwise than to produce contraction of its calibre; for the simple and obvious reason that, in arteries, neither the ring fibres nor the longitudinal fibres could, by their contraction, produce such an effect, and because no other mode of action of a muscular structure, excepting contraction could be recognized. The difficulty was regarded as so serious that the experimental proof, given long ago by Schiff (*Untersuch. üeber Physiol. des Nerven-Systems*, 1855, page 140), that there were such things as dilating nerves, was accepted with the utmost unwillingness. Now, we are convinced of the fact, that the nerves of muscles of the external parts of our bodies generally dilate, under the same conditions that the vessels of our viscera contract; and we recognize, in this antagonism[1] between outside and inside, a factor of great importance in the adaptation of the circulation of blood to the needs of the organism. But, as I have already hinted, for reasons which are easily stated, we must not allow ourselves to be misled by the apparent analogy of such effects, as, *e.g.*, that of the reflex congestion of the ear of the rabbit produced by stimulation of its sensory nerves, into supposing that they have the same meaning as inflammatory congestion.

One reason is that of time. I have more than once spoken of the inflammatory blush as transitory. The meaning of such a word as transitory is relative. As compared with inflammatory congestion, it is transitory; but, compared with a reflex response (such as occurs in the rabbit's ear, or in the submaxillary gland), it is lasting. The one is a question of minutes, the other of seconds. But the really conclusive reason why we are absolutely certain that the Hunterian effect is not dependent on, though it is influenced by, the brain or spinal cord, is, that it occurs in all perfection in paralyzed parts. It is a very long time since Mr. Simon (*Lectures on General Pathology*, 1850, page 76) observed, in a patient whose eye was anæsthetic in consequence of disease affecting the fifth nerve, that, when a grain of irritant substance was introduced underneath the upper eyelid, the conjunctiva became at once hyperæmic, although the patient felt absolutely nothing. This observation of Mr. Simon's was, perhaps, the earliest of the kind. However that may be, the truth of its teaching has been abundantly confirmed since. In the frog, it is a matter of no great difficulty to ligature the root of the tongue in such a way as to exclude the blood-vessels. If this be done, the circulation, of course, goes on naturally, and you may observe it on the smooth surface, under the microscope, as Waller did. If, while you are doing so, the surface be touched with a hot wire, it responds with a blush, just as the normal tongue does.

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[1] The first step towards the discovery of this antagonism was made in 1870 by Heidenhain ("Ueber bisher unbeachtete Einwirkungen des Nerven-System," etc.; Pflüger's Archiv, vol. iii, p. 504), who found that increased action of the vaso-motor centre, however produced, led to increased vigor of the circulation and to increased temperature of superficial parts, notwithstanding the arterial constriction which, until then, had been regarded as the sole effect of such action. This observation had results comparable in importance to the first discovery of the vaso-motor nervous system; for, by suggesting that the regulatory influence of the brain and spinal cord on the blood-vessels was more complicated and more perfect than had before been imagined, it led to those later investigations too numerous to mention (Goltz, Gaskell, Heidenhain, Vulpian, Stricker, etc.), by which it has been learned that vascular nerves differ in function not only according to the vessels to which they are distributed, but according to the physiological states of those vessels. Vast as is the work which has been accomplished in this line of investigation since 1870, it is but the introduction to what has still to be done.

Side by side with these facts, may be placed those which show that paralyzed arteries respond to stimuli which act on them through the blood which circulates through them. The organ best adapted for showing this is the kidney. Half-a-dozen years ago, Dr. Mosso (Von einigen neuen Eigenschaften der Gefässwand, Ludwig's *Arbeiten*, 1874, p. 156) discovered that, when artificial cirlation is maintained through an excised kidney, under constant conditions as regards the pressure and temperature of the blood, the rate of blood through the organ undergoes variations which manifest themselves in changes of volume, and are due to the independent action of its arteries. Starting from these facts, Dr. Roy of the Brown Institution (*Transactions of the Cambridge Philosophical Society*, July 1881) has carried our knowledge of kidney-innervation much further. He has investigated with the utmost minuteness the mode in which the arteries of the living kidney respond to a variety of conditions affecting them through the blood with which they are supplied; and has proved among other important facts, that the effect of certain diuretic remedies, which is due to the direct dilating influence on the renal arteries, is as well marked after all the renal nerves have been divided as in the normal kidney. It is clear, therefore, that the arteries possess physiological endowments of a remarkable kind independently of the nervous system. The next question is, How do they act? And, to get at this, we must briefly consider what the normal state of the arteries is; and, inasmuch as our object is to eliminate the influence of the central system, we must confine our inquiries to arteries from which the channels of cerebro-spinal influence have been cut off. When, by the nearly simultaneous discoveries of Bernard, Brown-Séquard, and Augustus Waller, the fact first became known that the arteries of organs of which the vaso-motor nerves were divided became enlarged, it was supposed that the state of paralysis was permanent. In short, as Brown-Séquard said in 1858, motor nerve is to muscle what vaso-motor nerve is to artery. Not many years later, Schiff discovered what every one is now familiar with, that the paralyzed artery recovers, and sometimes even recovers its normal state of contraction, or, as we call it, its tonus. Tonus, therefore, (by which I mean simply that the artery, when subjected to the internal pressure to which it is accustomed, is of its natural size), is one of the independent endowments of arteries. Another endowment is that of rhythmical contraction. Everyone has watched the rhythmical contraction of the arteries of the rabbit's ear. A few have, perhaps, seen the corresponding phenomenon first observed by Mr. Wharton Jones in 1852[1]—the slow pulsation of the veins in the wing of the bat. At that time, vaso-motor nerves were not known. When they were discovered, the influence of section was tried, and it was thought that these pulsations ceased. It is, indeed, only by experiments made during last year (Luchsingen, von den Venenherzen in der Flughaut der Feldermäuse, Pflüger's *Archiv*, vol. xxvi, p. 445) that we know these rhythmical movements are absolutely independent; for, if the circulation be maintained artificially, the rhythmical motions continue for many hours after the death of the animal. The evidence we thus derive from the manifestation in paralyzed vessels of these two physiological endowments — namely, tonus and rhythmical action—that such vessels are in a functionally active state, naturally leads us back to the notion entertained by some of the older physiologists, that the relation of the arteries to the central nervous system is similar to that of the heart. Of this similarity there can be no question. Of the blood-vessels it can be stated as truly as of the heart, that their tonus is capable of being influenced by the cerebro-spinal nervous system in opposite directions, according to the channels through which the influence is conducted; and, secondly, that they perform their functions in an orderly and natural manner after complete severance of the nervous system. For the same reasons, therefore, and in the same sense that we familiarly regard the action of the heart as automatic, notwithstanding that its motions are at every moment influenced and regulated by the central nervous system, we are justified in saying that the blood-vessels also act automatically and *proprio motu*. If we had to do with a single artery, we might reason from one to the other, and venture on the analogy so far as to anticipate that, whenever the key shall be discovered to the wonderful controlling influence exercised by the central nervous system on the heart through the vagus, the same key will be found to serve for the solution of the equally difficult problem of the influence of these centres on the blood-vessels. But, if we resort to the phenomenon on which we are now endeavoring to throw light—that of the inflammatory *affluxus sanguinis*—we are at once reminded that, as regards the vessels, there is something else to be conducted, of which the physiology of the heart affords us no counterpart. When one puts a little bit of nitrate of silver on the nerveless tongue of a frog, or when a bit of dust is introduced under a feelingless eyelid, the effect starts from the irritant, and rapidly spreads over the surface from vessel to vessel with considerable rapidity. How we do account for this co-ordinated action where the controlling influence of the nervous system is cut off? You know the answer that Lister made to this question in 1858. He met it by the hypothesis of a peripheral nervous system, or, as he called it, "a local co-ordinating apparatus ...... capable of being independently influenced by irritation," though normally, "in subordination to the nervous system." These notions of Lister's, neglected and forgotten for fifteen years, have now become familiar; for, by elaborate researches made chiefly during the years 1874-78, of which Goltz was the initiator, the independent action of the arteries of the external parts of the body has been established, and it has since become the habit of physiologists to talk of "peripheral local centres" for these vessels as if such things really existed. I need not say that there is no more anatomical evidence now that such things exist, than there was when Lister first called them into being in order to vest in them the local management of the vascular system. The question whether such machinery is necessary or not, is one which we need not at present determine; nor does it in the slightest degree effect the pathological of the firmly established and universally accepted conclusion that, centres or no centres, the peripheral arteries are able to act in concert with each other, even when they are deprived of the regulatory influence of the brain and spinal cord.

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[1] Discovery that the veins of the bat's wing are endowed with rhythmical contractility. Philosophical Transactions, 1852.

And thus we find ourselves once more coming back to the notions, which at one time were thought obsolete, of the great father and founder of physiological pathology, John Hunter, accounting for the inflammatory blush, which he was the first to describe, by attributing it, as he did, to the "action of the vessels."—*British Medical Journal.*

ON THE DIAGNOSIS OF TRICHINOSIS IN MAN.[1]—The recent discussion in the public press, and at our learned societies, on the discovery of trichinæ in various articles of food, and the preventive measures adopted against these tainted provisions are familiar to all medical men; the present time is, however, opportune for the consideration of the different forms under which trichinæ may present themselves. I am convinced that epidemics of trichinosis have passed in France unnoted, through imperfect knowledge of the symptoms of this malady. I desire to address especially practitioners in small towns, and in the country; to familiarize them with the diagnosis, symptoms, etc.

Trichnosis is not, properly speaking, epidemic, it does not attack the masses, it invades families or individuals who have partaken of the same viands. In the country, or our small towns, the same medical man is probably called to a number of cases presenting the same symptoms, from the analogy of the complications suspicion is directed to the food supply, poisoning is suspected.

In Paris, if two or three families were attacked, as many different medical men would be called in, so that the comparison of the complications and the singularity of so many sufferers with similar symptoms would pass unnoticed. Difficulties arise, too, which are simplified in small towns, or in the country. In the latter place it is easier to trace the attack, from house to house, to the shop of the dealer.

In order to facilitate inquiry I shall briefly run over the principal symptoms of trichinosis.

History.—Before describing the symptoms a few words are necessary on the discovery of trichinæ, and on the manner in which this parasite behaves in the economy. For some years the presence of a worm in the muscles in an encysted state was recognized. Owen, in 1835, gave the names of trichina spiralis to the parasite; up to 1860 the mode of development of this parasite in spite of research was unknown. Zenker, however, in 1860, threw light on the evolution of the parasite. At this time Zenker was professor of pathological anatomy at Leipzic, he was attending some alterations in the muscles in typhoid fever. Whilst making an autopsy on the body of a girl, presumably dying from typhoid, he found the muscles filled with a number of trichinæ, in a free state, without apparent cysts. There was no ulceration of Peyer's patches, no trace of typhoid fever, but the intestinal mucus furnished worms exactly similar to those found in the muscular layers, but provided with completely developed genital organs. It was ascertained that this young woman had eaten some pork. Zenker obtained some of the pork, and found it infested with trichinæ. He cleared up the obscure point in the evolution of the trichinæ; before becoming encysted in the muscles the worms fecundated in the intestines, from whence the embryos migrated to invade the muscular tissues. Zenker's experiments were repeated by Virchow, Leuellard and confirmed. Numerous cases of trichinosis have been since reported in Germany and England.

Description of the trichinæ.—The trichina is a filiform worm of the length of eighth lengths of a millimetre to a millimetre, spirally rolled in the interior of a cystic membrane, interposed between the muscular fibrillæ, in the connective intra-muscular tissues, and not in the muscular fibres themselves. Ingested with infected pork the trichinæ emerge from their cyst, and after a few hours may be found free in the stomach, from which they pass to the intestines, where they undergo development. Embryos may be found in about seven days. These embryos develop in the interior of the female; expelled by the vagina they may be found in the intestinal mucus under the form of small threads, then in the mesenteric ganglia, in the peritoneum, pericardium, whence they spread to all the muscles. They destroy the contractile tissues, then roll themselves into coils raising at one point the sarcolemma to form the external envelop of the cyst, whilst the core proliferates in the interior, forming a second covering. How do the trichinæ migrate? Probably by the lymphatic glands. The presence of the young trichinæ in the mucous membrane, and in the mesenteric ganglia seems to prove it. Zenker and Thudicum say they have seen embryos in the blood of man. It is certain that the muscles first invaded are those nearest the intestine, as diaphragm, and intercostal, and abdominal muscles. The trichinæ accumulates towards the muscular insertion. The heart is the only muscles invasion.

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[1] Translated from La France Medicale.

Symptoms of the Malady.—We must not expect to meet with all the symptoms described in books. The disease proceeds by groups of symptoms. I shall describe the morbid forms in the following order:—1st. Gastro-intestinal form. 2nd. Rheumatoid form. 3rd. Œdematous form. 4th. Typhoid form.

I. *Gastro-intestinal form.*—Trichinous individuals are taken without apparent cause, with serious digestive derangements; epigastric *malaise*, with a sense of fullness; nausea; vomiting. The time of vomiting is variable; sometimes it takes place on the same day as food was taken or the day after, or three or four days. These gastric troubles are often attended by diarrhœa of a choleraic type. The physician may treat the case as one of simple indigestion, or may believe it choleraic. The microscope will remove all doubt, the parasite will be found in the *garde-robes*. There are two points worth noting in this form, there is excessive perspiration, and extreme muscular prostration.

II. *Rheumatoid form.*—In this type muscular pains predominate. Patients experience great fatigue accompanied by violent pains which prevent movement. There is a sort of weakness, painful paresis. About the eighth day the muscles become swollen and hard as a plank, very sensitive to pressure. If the trichinæ have invaded arms and legs, test the muscles, the flexors are always more seriously affected than the others. Palpation gives a feeling of hardness; but the muscles of the limbs are not the only ones attacked. The trichinæ may fix themselves in the muscles of the jaw, pharynx, larynx, and eye. The muscles of respiration, especially the diaphragm are always attacked, dyspnœa may be observed, but this will vary according to the number of parasites fixed in the muscles of respiration. Pain is a leading symptom, and this pain may be put down to rheumatism, syphillis, neuralgia, etc. The physician will, however, be on his guard if gastro-intestinal trouble has been previously noted. The muscles may be pierced by the trocar of Duchenne, or the harpoon of Modeldaysf, and the trichinæ sought for in the fragments removed. This is not a certain test, for you may take away a fragment of muscle perfectly healthy which may be alongside a completely trichinised fascia. It is better to make a retrospective inquiry as to what the patient has eaten.

III. *Œdematous Form.*—This is the most characteristic type. Patients come to you with their faces swollen, especially their eyelids, complaining of extreme prostration. This edema may be unilateral when it is, so to say, pathognomonic, or is it dual. Not finding anything the matter with the heart or the kidneys, cachexia is expected. When joined to these symptoms we have muscular weakness and gastro-intestinal disturbance, the diagnosis is simplified. This œdema may become general or give place to œdema of the extremities. This is explained by disturbance of the circulation by obliteration of the small vessels by the trichinæ.

IV. *Typhoid Form*—This form of trichnosis presents more than one analogy with typhoid fever. The temperature is raised and the fever continued. The aspect, prostration, respiratory trouble recall the onset of typhoid. The acute form may be put down to spinal derangement. These phenomena will assist you: 1st. The profuse perspiration which does not exist in typhoid fever, where the skin is excessively dry. 2nd. The œdema of the face, observed in nine cases out of ten of thichinosis. 3rd. The rapid subsidence of the fever. I might make a fifth class under the name *nervous*. M. Le Roy De Mericourt believes that there is a certain analagy between these symptoms and those, of acrodynia, which prevailed in Paris in 1829, and which may be attributed to poisoning by trichinæ. I might speak of the various furuncular, miliary, pustulous eruptions which have been noticed in a certain number of cases.

Resumé—The four forms of the malady which I have just described may combine, though intestinal disturbance may be absent, yet the muscular pain, the intestinal disturbance, and the swelling of the face, will almost constantly be found. The typhoid form is usually seen in those cases which terminate fatally, death taking place from the twelfth to the thirteenth week, with stupor, delirium, and all the phenomena of adynamia This short sketch will put practitioners on their guard against error, and facilitate the diagnosis of trichinosis.—*Clinical Record.*

RECENT RESEARCHES ON BACTERIA.—*I. Koch's Methods of Investigating Pathogenic Bacteria.*—The prominent part played by micro-organisms in the production of disease, and the necessity for the minute study of their life-history, is now almost universally admitted. Their relations to surgery, more especially to the progress of wounds, and also to many diseases which come under the care of a physician, are of the utmost importance; but in no department of medicine is a thorough knowledge of these minute creatures more requisite than in that of sanitary science. The evil effects of bad sanitation, and the spread of infectious diseases, are closely associated with the growth of bacteria; while the onset and progress of fevers strongly suggest the entrance into the body and development there of some particle capable of indefinite self-multiplication. For several years, observers have been making experiments on the relations of bacteria and infective diseases, but in only a very few instances have definite and positive results been obtained. This failure is now shown to have been due to the use of imperfect methods of observation and research; and it was not till the appearance of the first writings of Dr. Koch, now of Berlin, that a definite basis for such observations was obtained. Dr. Koch has of late done some striking work, and within the last few weeks has published some remarkable experiments on tuberculosis, which we propose to notice in our next article. He is a worker on whose observations and accuracy the most implicate reliance can be placed, and those who have had the pleasure of seeing him at work will hesitate before they find fault with his statements. The place which has been taken in this question by Pasteur with reference to surgery, is now worthily occupied by Koch in reference to infective diseases and sanitary science.

In the recently published *Mittheilungen des Kaiserlichen Gesundheits-Amtes*, Dr. Koch writes a number of papers on the most recent work which he has been carrying on; the first of which, "On the Investigation of Pathogenic Bacteria," we propose to consider in the present article. In studying the bacterium, from a sanitary point of view, we have first to determine whether or not it be pathogenic, then whether it be infective and on what animals, then the mode in which it enters the body, its behavior outside the body in air, water, earth, etc.; and lastly, the influence exercised on it by various antiseptic substances.

In the first place, in determining whether an organism be pathogenic or infective, its presence in the blood and tissues of the body must be demonstrated. In reference to this question, Koch discusses the possibility of the existence of micro-organisms in the tissues of the healthy living body, and denies their presence both from his own observations and from those or other writers. The methods by which the presence of micro-organisms in fluids and tissue are demonstrated, were published years ago by Koch in Cohn's *Beiträge zur Physiologie der Pflanzen*, and are now so well known as to need no description. Some improvements have, however, been introduced since. The fluids are dried in a thin layer on a cover glass, and, instead of being then stained, as at first recommended, they are either placed in alcohol for some days, or they are raised to a temperature of 130° Cent. (248° to 260° Fahr.) for a few minutes. This coagulates the albumen, fixes the specimen to the cover glass, and prevents the precipitation of albumen and granules of anilin which occurred during the staining of specimens prepared in the old way. By this means only bacteria and nuclei are stained, the rest of the material remaining beautifully transparent and unaffected, while specimens can be examined a few minutes after their removal from the body. The objection to the method is that the bacteria are somewhat altered in thickness and size; but, if only specimens prepared in this way be compared, this alteration is of no material consequence. For most things, Koch now recommends the methylin blue introduced by Ehrlich, in preference to the methyl violet formerly employed. For photography, however, the brown stain must still be used. The method of staining sections of tissue has been recently published by the Sydenham Society in their translation of Koch's "Traumatic Infective Diseases," and requires no description. A point of importance is, however, that different forms of organisms take different stains best, and therefore it is not sufficient to examine sections stained by methyl violet alone, other stains must be employed. Thus the spirillum of relapsing fever will not stain in the tissue with methyl violet at all, and can only be found in sections stained with anilin brown. The material which seems to stain the greatest variety of organism is the gentian violet lately introduced by Weigert. By keeping the staining material at a temperature of 40° to 50° Cent. (104° to 122° Fahr.) the specimens are much more rapidly colored than at the ordinary temperature.

The presence of a particular form of organism having been discovered in the blood and in the tissues, it remains to be seen whether this is pathogenic or not. This is tested by the introduction of material containing the organism into the body of a suitable animal, if possible of the same species. The most frequent mode in which this is done is by inoculation, where the minutest quantity is placed in contact with a scratch which does not pass through the whole skin. This inoculation must be carefully distinguished from introduction into the subcutaneous tissue; for some forms of organisms differ in their effects, according as they are merely inoculated or subcutaneously injected. Distinct from these, again, we have the injection into the veins. Of course, all instruments employed must be thoroughly disinfected; and for this purpose, prolonged heating at 150° Cent. is best.

The most important of these investigations is, however, the pure cultivation of the bacteria found in the foregoing manner in the body. So long as infection is only produced by the fluids of the body, it is always open to objection that the bacteria are only accidentally present, and that the true cause of infection is some mass of protoplasm or fluid derived from the body. But, if the bacteria can be grown on a variety of substances apart from the body, and if it be found that their introduction into the body, after being in this way separated from the original animal material, is still followed by infection, the presumption is very strong that they are the cause of the infection. The methods of cultivation in fluids have attained great precision, more especially in this country; but it is often difficult to get these organisms pure in the best instance, and, if more than one kind of bacteria enter a fluid, it is almost impossible to separate them again. Indeed, the only way in which this has been done is by the elaborate process described by Mr. Lister, in his paper on "Lactic Fermentation." Dr. Koch, in culvitating pigment-bacteria on bacteria, obsevred that, even though other forms of organisms fell on the potato, they only grew where they fell; and thus, in spite of the presence of other forms, the variety under consideration could always be obtained, and remained pure. Hence he concluded that, if pathogenic bacteria were placed on a suitable *solid* soil, they could be kept pure for an indefinite time. In order to obtain a solid material, he adds from 3 to 5 per cent. of gelatine to the infusion or other substance with which he is experimenting. He thus gets a substance which can be clarified, and any organism placed on it grows, and its mode of growth can be observed under the microscope. If any accidental growth, it only spreads at one point, and fresh material can be inoculated from a pure part without risk of contamination. Also, if in any material there be two sorts of organisms, they can be separated from each other by making the gelatine liquid, and shaking it well. In a few days, small opaque spots will be observed throughout the gelatine, and these will be found to consist often of one or other form of organism alone. Fresh gelatine may be inoculated from one of these spots, and the organisms obtained pure. Thus, water, milk, etc., may be investigated, and the pathogenic properties of the various forms of organisms which are found may be ascertained by experiments on animals. By exposing a vessel containing gelatine to the air for a given time, the various forms present in that specimen of air will grow at different points on the surface of the gelatine, and may be examined separately.

The importance of this method of cultivation is very great; and in some succeeding articles we shall find examples of its results. The chief objection to it is, that the gelatine becomes liquid at the temperature of the body, and thus the advantage of the solid substratum is lost when it is necessary to keep the cultivation at the temperature of the body. This difficulty has been recently to some extent overcome, as we shall see in our next article on tuberculosis.—*British Medical Journal.*

TENDON REFLEXES.—Dr. Byers, of Belfast has published some cases illustrating the importance of the patellar tendon reflex symptoms in the diagnosis of certain nervous lesions. Though not strictly a pathological condition, he has only once found it absent in a healthy person; and yet he observes that under certain normal conditions it may not be produced, as for example, when the individual happens to be very fleshy, or when the tendon is unusually short. Berger is also quoted to show that the reflex may occasionally be absent without nervous disease (in about one per cent.) To determine whether the reaction be present, he places the patient on a chair, lets the foot be planted firmly upon the floor at a little more than a right angle. He then rests his left hand on the quadriceps muscle and with the other hand strikes the tendon below the patella. The muscle is then felt to contract if the reaction ensue. Should this fail, however, the patella may be struck, or even the tendon above the patella. This is Buzzard's method. Cases of tabes dorsalis and of diphtheritic paralysis are given where the absence of the reflex was noteworthy, while in a case of acute anterior polio-myelitis the absence of the patellar reflex enabled him to differentiate the disease from a cerebral disease, there being in this case either exaggerated reflex or none at all. In his fourth history, one of right hemiplegia, there was increased patellar reflex of the right leg and exaggerated supinator reflex of the right arm.—*Dublin Journal of Medical Sciences*, March, 1882.

THREE CASES OF POISONING BY STRAMONIUM. Cases of poisoning by stramonium are by no means common; but, apart from this fact, it is interesting to trace the accident by which these persons were poisoned with it. On March 19th I was summoned to a house where three members of a family (mother, daughter, and granddaughter), who had been quite well up to the time of having dinner, were soon afterwards seized with symptoms of poisoning, apparently by belladonna. I found on inquiry that they had had for dinner, broth with dried herbs in it, and also some beef, with turnips, carrots, and potatoes. In about ten minutes after taking the broth, and before rising from the table, they began to feel uncomfortable symptoms, these differing in each case. The mother felt her head first affected, the daughter her throat, and the child her stomach, causing nausea and vomiting. These symptoms supervened much more quickly than is usually experienced in poisoning by belladonna. As they had eaten nothing else for dinner besides what I have mentioned, it seemed hard to understand how they had been poisoned. I, however, obtained the remainder of the dried herbs, but there were only a few small pieces left. On adding boiling water, in order to make an infusion of them, the leaves expanded, and I found two unmistakable portions of the leaf of the datura stramonium, also two of the characteristic buds of the plant and the corolla of a flower. On filtering the solution, I applied a few drops to my eye, and it rapidly and fully dilated the pupil, causing indistinctness of vision and loss of accommodative power, which lasted for forty-eight hours. A stramonium plant most probably had been growing amongst the herbs and was unwittingly picked and dried with the rest. The following is a short record of the cases: Mrs. A., aged 70, was quite unconscious when first seen, four hours after dinner; her pupils were widely dilated and insensible to light. Her lips were swollen and the lower one was of a purplish hue. She was quite unable to swallow. Her pulse was 90, soft and compressible. There was complete loss of power in her lower extremities, accompanied by subsultus tendinum, but she was busy with her hands picking at imaginary objects. She also had several convulsions. My stomach-pump, unfortunately, being out of order, I gave her a subcutaneous injection of one-sixth of a grain of pilocarpine, followed by a similar one in a quarter of an hour. This produced free vomiting and perspiration. She then began to rally, and I left her after giving her a fourth of a grain of morphia in pill. She had a fair night, but was very giddy and weak next day and unable to get up. Susan A., a daughter of the above, was in a less serious condition, being in a state of mirthful and busy delirium and very restless. Her pupils were widely dilated, and her cheeks flushed. She was able to take an emetic, and her bowels had been very freely moved—four times since dinner. She complained much of her throat, also of headache and vertigo. Her first sensations of discomfort, she afterwards told me, were referable to her throat. She gradually improved, but her throat and the mucous membrane of her mouth were sore for several days after. The granddaughter, a child four a half years old, appearing poorly and vomiting after dinner, was taken home, nearly a mile off, to which she walked, though wandering more or less in her mind. She then came under the care of another medical man, who found her very restless and suffering from illusions. She was able to swallow an emetic which caused renewed vomiting, and she was then treated with small doses of opium, under which she gradually became quieter, and was nearly well on the following day. Morphia, physostigma, and pilocarpine are all physiological antidotes to belladonna and its allies; but if pilocarpine can be depended upon to cause free vomiting (physiologically) as in the above case, its value would be enhanced in such cases of poisoning.—H. Coupland Taylor, M.B.—*British Med. Journal.*

Charcot on the Galvanisation of the Brain of Hypnotised Hysterical Patients.—Prof. Charcot (*Progres Médical*, 1882, Nos. 2 and 4) relates some curious experiments showing that the cerebral centres apparently share in the general hyperexcitability observed in certain hypnotised subjects. Makes and breaks, more especially voltaic alternatives, of a current of from four to ten Leclanché cells applied to one hemisphere, gave rise in several cases to muscular contractions on the opposite side of the body. In the waking condition no such effects were ever produced. In other patients the muscular contractions occurred on the same side of the body. Finally, in cases where peripheral hyperexcitability was not well marked, the effects of cerebral galvanisation were but slight. Prof. Charcot expresses himself with great reserve on this subject, which is full of interest, but this requires much careful investigation.—*Brain.*

The Bacilli of Tubercle.—At the Physiological Laboratory at King's College, a few days since, Mr. Watson Cheyne and Mr. E. M. Nelson exhibited some specimens showing the bacilli found in tubercle, prepared by Dr. Koch, and brought over to this country by Dr. Goltdammer. On one slide was a miliary tubercle from the human lung, crushed and spread out on a coverglass, and stained with methylen blue and vesuvin; in this, the bacilli appeared as delicate blue rods among the brown-stained nuclei and granular material. The second specimen was a section of a tuberculous mesenteric gland, from a guinea-pig which had been inoculated with tubercle; the bacilli lay in large numbers among the nuclei towards the outside of a tubercle. The third was a section of a tuberculous mesenteric gland from a cow affected with bovine tuberculosis (*Perlsucht*). This specimen demonstrated the presence of bacilli in the interior of giant-cells. The discovery of the bacilli in this case was much more difficult than in the others; but on carefully focussing, several minute delicate blue rods could be found. Mr. Cheyne showed other forms of bacilli, for comparison with the tubercular varieties. Large numbers of the bacilli, which have been described as occurring in leprosy, were shown in a section of a leprous nodule. These differ from the tubercle bacilli in being more pointed at the end, and in being stained by methyl violet (Weigert's nuclear method of staining). There was also a specimen of the bacilli which produce septicæmia in house-mice, and of a long delicate form which apparently caused erysipelas in the ear of rabbits (see Koch's *Traumatic Infective Diseases*). In contrast to these was a splendid specimen of the bacilli of anthrax in the lymph-sinuses of a lymphatic gland. It is satisfactory to have seen and confirmed the presence of these organisms in tubercle; while, by the exhibition of other forms of pathogenic bacilli, each having their special characteristics, one is led to see that the presence of these organisms in the morbid processes can hardly be a matter of accident. The lenses employed were Ziess's $\frac{1}{12}$ oil, with Abbé's condenser, and Powell and Lealand's $\frac{1}{12}$ oil and $\frac{1}{25}$ water immersions, with achromatic condensers. The demonstration was largely attended, most of the best known British authorities on the germ-theory and on antiseptic surgery being present.—*British Medical Journal.*

Bantingism in the Treatment of Eczema of Infants.—It is familiar to every practitioner that eczema is specially common among infants and particularly amongst lymphatic infants, that is to say, fat and pasty-looking infants. I do not refer only to those instances in which the very fatness of the infant is the mechanical cause of the complaint; that is to say, where "a fold" of skin in the fat infant becomes raw and discharging (intertrigo); but I refer to the well-known fact that infants of this constitution are more liable than others to eczema (of the scalp and other parts), not coming under the head of intertrigo, and that their eczema is more profuse in its discharge whether that discharge be serous or purulent than it is in other infants; it is also more obstinate. I recently recorded in the journal some experiments I had made with iodoform as an application in such cases, and which succeeded very well as a means of reducing the eczema of such infants from the discharging to the dry condition pretty rapidly. As to that, I was supported by other writers. But from some observations I have recently made, I have reason to think that bantingism as applied to such infants is as rapid in its effects and if sustained is of more permanent efficacy. Some years ago the late Mr. Banting was under my care for eczema, and I had an opportunity of conversing with him pretty frequently on the system of which he was the apostle. It was through this accident that the idea suggested itself to me. I have used the word infant for the sake of convenience, but I refer rather to very young children.

To Bantingism a suckling infant, is, of course, not very practicable, but a child of two or three years old can be dieted very readily. It does not appear necessary to the end in view that the diet should be restricted in quantity as well as in quality, which, of course, was essential under the regime laid down by Mr. Banting, or by the late Mr. Harvey (the aurist) for him. It is simply necessary to limit the fat producing elements of food for the amelioration of eczema in lymphatic, young children. At least so I have found. By this means their excessive obesity becomes diminished and their eczema very remarkably improved within ten days of commencing the regimen, and that without any injury whatever to their general health, so far as I can judge. In place of pure milk they should take milk diluted with an equal or even a double quantity of water. In place of bread and butter they should take dry toast or dry biscuits; and with these particular articles of food they may be supplied indefinitely. All the fat is to be carefully cut away from such meat as they may partake of, and they should not be allowed pork, veal or lamb.

They may have poultry, or game, or fish, except the oily kind of fishes, such as herrings, salmon, eels, etc., and the fish they partake of should be boiled not fried. They may eat boiled vegetable tops, but not vegetable roots, such as potato, parsnip, beet-root, turnip or carrot. Beef-tea (the melted fat being carefully skimmed off) is permissible in any quantity, and so, also, toast and water. Cooked fruit (not sweetened) may also be allowed.

But the principles of the Banting treatment are universally known. It only remains for me to say codliver oil (the favorite remedy, par excellence, for the condition of which I am speaking) is quite incompatible with the treatment I am advocating. Of course, the health of the child should be watched and it should be weighed at the commencement of its dieting and afterwards from week to week.—Dr. Balmanno Squire in the *British Medical Journal.*

THE *Boston Post*, speaking of the witticisms of Dr. Oliver Wendell Holmes, says they are all very plain. There is a *Holmes-pun* look about them.

SURGERY.

THE COMPLETE EXTIRPATION OF CANCER.—We have more than once in these colums had occasion to insist upon the importance of the localistic view of cancer as an encouragement to the surgeon in his endeavor to cope with this dread disease, and opportunities are continually being afforded in the advances made by surgery for a reiteration of this doctrine. Pathology has enabled us to define with fair accuracy the meaning of the term "malignant." It has taught us that there are some forms of new growth, which from their own disintegrating changes imperil life, yet do not infect the system; they remain localized in the vicinity of their primary seat, and if capable of complete extirpation do not recur. There are others which infect neighboring lymphatic glands, and seem to spend all their virus on them, seldom spreading to other regions. Others, again, with pronounced malignancy, are more or less rapidly disseminated throughout the organism. We believe that all the facts regarding malignant growths may be explained on the hypothesis of their local origin, as was some years ago strenuously insisted upon by Campbell de Morgan; and the differences in degree and extent of generalization depend as much upon the nature of the primary growth as they do upon the individual organism on which it is grafted.

Taking, then, this doctrine as established, how can we explain the lamentably frequent failure of surgery to radically cure the disease? To this question pathology supplies an answer, borne out by clinical experience. Take the instance of cancer of the breast. Excision is practiced; a clean sweep is made of all the implicated structures and glands, as well as some of the apparently healthy surrounding tissue. One of several events may take place, and a radical cure may be effected; but this is only too infrequent. In many cases in which it does take place, the new growth may be found to be of a simple non-infective character. Or there may be no local recurrence of disease; but sooner or later the lymphatic glands, disregarded at the time of the primary operation, become enlarged and cancerous, and may then be either removed or be so situated as to defy removal; whilst also internal viscera or the opposite breast may be the seat of secondary growths, and death ensue from such extension within a year or two of the first extirpation. The reason why this happens is that the disease has *not* been extirpated wholly and this through no lack of judgment or boldness on the surgeon's part. Tissues that appear healthy, even to the microscope, may conceivably be already under the mysterious influence of the *materies morbi* generated by the growth of the primary disease; and if this may seem too extravagant a statement, it is certainly true of tissues that appear normal to the unaided eye. In this way only can the facts of local recurrence in the lymphatic glands be explained. The same applies to the visceral metastases. At the time of operating no indication at all may be given of the liver being infected, and yet how many cases of mammary cancer eventually present extensive secondary growths in this organ. How can this be explained, except on the view that, even at the time when it appeared possible, to remove the primary disease, the liver was already infected, although a long interval—in some cases measured by years rather than months—might elapse before the latent germs manifest themselves in that organ. There is no need to apply the argument to all the other seats of secondary cancer, but it is not difficult to make the application, which seems to us to be a sound deduction from the pathology of these growths. This idea does not of course, preclude the notion that in many individuals there may be an underlying tendency to cancer, whereby they are more liable to its excitation from camparatively trivial causes than others are: a tendency which may, perhaps, be explained by a local perversion of nutrition or a congenital defect of certain tissues transmissible from parent to offspring. It does not seek to explain away "constitutionalism," but aims solely at emphasizing the relation between the primary source of the disease and its secondary manifestations. This, then, is the encouragement to be derived by surgery from pathology—viz, to extirpate the local disease at the very earliest moment, so as to anticipate its generalization; to remove as much tissue as possible within the region of the primary disease, going far beyond the limits of visibly altered tissue. There is nothing new in either of these principles, which are daily enforced by practical surgeons, and yet the ultimate issue is too often the same.

There have been two papers read before our Societies this week that bear on this subject, and have, indeed, suggested the foregoing remarks. At the Royal Medical and Chirurgical Society Mr. Bryant communicated a case in which he had successfully excised a cancerous stricture of the colon through an incision in the loin, made with the object of colotomy, symptoms of chronic obstruction having lasted a long time, and practically complete obstruction for eight weeks. The diagnosis of annular stricture in the descending colon or sigmoid was made and confirmed when the bowel was exposed. Finding that the gut had contracted no adhesions to the surrounding parts, and knowing the very local character of these cancers of the bowel, Mr. Bryant relieved the patient of the diseased mass, and has probably succeeded in effecting a complete cure. Colotomy alone would have done much; the obstruction would have been relieved, and the ulcerating growth, no longer irritated mechanically, would have proceeded at so slow a rate as to have given but little trouble from its local extension for a long time; but its presence will ultimately probably cause the patient's death from implication of the surrounding parts in the disease. Colotomy and complete extirpation of the ring of diseased bowel has done more—in fact has left nothing more to be done. The other paper was read by Mr. Pearce Gould before the Medical Society, and in it the principle was advocated not only of free extirpation of the diseased tissues in mammary cancer and of the implicated axillary glands, but also of those glands which, to all appearance, are healthy, but, from their close contiguity to the infected glands, may be on the verge of becoming themselves infected, and possibly are so. He quoted some striking illustrations of this, and we cannot but think that the procedure he advocated is based on rational pathological grounds. The logical outcome must not, however, be disregarded. It means this, if it means anything, that in no case is it wise to leave behind glands which can be extirpated, although they may present no evident signs of disease. It applies to cancers of the lip, tongue, penis, and other regions where the surgeon is enabled to remove the primary disease, but where glandular recurrences are so prone to occur, just as much as to the mamma. We say nothing of the practicability of such radical interference, and we are not unmindful of the fact that such glandular recurrence is not invariable, but we can see no hope for the complete extirpation of cancer—none, in other words, for its cure—until the stern pathological fact of glandular infection is recognized in all its signficance by surgery.—*London Lancet.*

Excision of the Pylorus.—On April 5th, at the Manchester Royal Infirmary, Mr. F. A. Southam removed the pylorus, along with nearly a third of the stomach, from a man aged 43, suffering from carcinoma of the parts which were taken away by operation. The patient had been under the care of Dr. James Ross for the relief of symptoms of pyloric obstruction, A hard and freely movable mass could be felt through the abdominal walls; and operative measures were determined upon at Dr. Ross's suggestion. The operation was performed by Mr. Southam, with the assistance of Mr. Whitehead, antiseptically, after the method adopted by Professor Billroth. Thirty-nine silk ligatures were found necessary for uniting the duodenum to the stomach. The shock succeeding the operation, which lasted one hour and a half, appeared to be very slight, and for twelve hours the patient's condition was all that could be desired. No sickness ensued; the pulse was very fair; and the temperature did not fall below 96.6°. Towards evening, the temperature rose gradually; and, fourteen hours after the conclusion of the operation, death occurred somewhat suddenly, apparently from collapse, but "no doubt," in the opinion of the operator, "as the result of that acute form of septicæmia, or rather septic intoxication, to which Dr. Marion Sims has directed attention, and which is, no doubt, the real cause of death in many cases of abdominal surgery, especially where no outlet is afforded for the discharges." The temperature just before death had risen to 102.° At the necropsy, the condition of the parts around the seat of operation was carefully examined, and tolerably firm adhesion was found to have already taken place between the cut surfaces of the stomach and the stomach and the duodenum. There were six and a half ounces of blood-stained serum in the peritoneal cavity. We hope to be able to afford an early insertion to further and fuller particulars of this case.—*British Medical Journal.*

OBSTETRICS.

Condurango in the Treatment of Cancer of the Uterus.—Dr. Drszewezky. The favorable results obtained in the treatment of cancer of the stomach by condurango, induced me to test its efficacy in uterine cancer; certainly only in those cases, in which an operation was not deemed advisable. At first I employed it in the form of a decoction, and treated the local affection symptomatically. Then I used the decoction as an injection and for saturating the tampon, which I introduced into the vagina, and pushed upward until it came in contact with the diseased portion. These attempts were followed by no success.

In May 1881, I prepared an extract of condurango bark in the following manner: The bark was macerated in hot water, then cooked, and, finally, this decoction and infusion was allowed to evaporate in a chamber—temperature 70°. Out of one pound of the bark, two ounces of the extract were obtained. The latter was of a light-brown color, odorless and of a somewhat bitter taste. In combination with a vaseline it formed a coffee-brown mixture, which was readily absorbed by cotton.

Since that time, I have used in all cases of uterine and vaginal carcinomata, a salve of ext. condurango ʒii., vaseline, ʒvi. With this I saturated a tampon and introduced it into the vagina.

My method was as follows: I enveloped the end of an elastic sound with cotton, which I secured by means of thread. This tampon I saturated thoroughly with the salve and guiding it with the sound, applied it to the ulcerated surface. Introducing my finger and retaining the tampon in its position, I withdrew the sound. The tampon was introduced daily, remained for 6—8 hours, and was then withdrawn by the patient herself. Besides this, I injected a solution of carbolic acid 3—4 per day.

Up to the present time, I have employed this method in ten cases, in which the infiltration was very extensive, the ulcerated surface was covered with detritus, and the discharge was bloody and foul.

In all cases the results were very satisfactory. In a few days the ulcerated parts grew firmer and smooth. The secretion diminished and lost its foul odor; the bleeding ceased entirely. The effect was governed more or less by the extent of the destruction and by the thoroughness with which the remedy was brought in contact with the diseased tissues. According to the observations, hitherto made, the condurango acts only superficially at the point of contact with the surface, but has no effect upon the further spread of the disease.

Thus, for instance, two vesico-vaginal fistulæ, which were the result of carcinoma, closed completely after using this remedy, but opened again after a short period, since the disease was not checked in its progress.

I must remark, however, that in the cases under observation, the infiltration and destruction extended deeply into the tissues. At all events I give precedence to this method of treatment, since it improves considerably the condition of the patient. The pain loses its severity, and the hemorrhage and foul smelling discharge cease.

Of the 10 cases, four left the hospital in an improved condition, three died and three remain under treatment.

As soon as the opportunity is offered, I shall make microscopic examinations of the cases, which are being treated according to my method.

These preliminary communications I present with the view of calling the attention of my colleagues to a new palliative remedy, and beg them to submit it to a thorough test, so that a greater number of facts may be gathered and the severe suffering of many patients relieved.—*St. Petersburger Med. Woch.* G.A.F.

MISCELLANY AND NEWS.

THE ANASTOMOSES OF PULMONARY VEINS.—According to Zuckerkandl, if the pulmonary veins are injected no vascular arrangement can be seen in the finer bronchial tubes distinct from the respiratory recticulum; but the capillary network of these tubes is continued uninterruptedly into the areolar recticulum, and the vessels of both are of the same calibre. Apparently the ramifications of the bronchial veins pass into those of the pulmonary system. Thus the greater part of the blood coming from the bronchi passes into the pulmonary veins, and into the arterial blood. The vessels which are termed "bronchial veins" do not reach the smaller bronchial tubes, but are distributed only to those of the second or third size; and even this region does not belong to them exclusively, for some of the veins of these tubes open into the pulmonary veins. The anterior bronchial veins, which receive blood from bronchi of the first division, from the bronchial glands, and from the posterior surface of the pericardium, discharge their contents in part into the vena azygos, in part into the posterior bronchial veins, and in part into the large trunk of the pulmonary vein. The posterior bronchial veins open, for the most part, into the vena azygos; the left into the vena hemiazygo accesoria, sometimes into the innominate vein. Hence an injection into the pulmonary vein passes not only into the proper venous vessels of the lungs, but also into the veins of the œsophagus, aorta, diaphragm, the pleura, pericardium, and may ultimately find its way into ramifications of the portal vein. The chief part of the mediastinal plexus belongs to the aortic system. There is thus no doubt that in the lungs venous blood is mingled with arterial, for if it is assumed that the blood becomes aerated in the walls of the bronchial tubes, there remains the mediastinal plexus, which pours the greatest part of its blood into the arterial path. Varietes in the arrangement which Zuckerkandl has observed are: 1st. Opening of the bronchial vein into one branch of the pulmonary vein. 2nd. Opening of a branch of the pulmonary vein into the superior vena cava. 3d. Opening of one branch of the pulmonary vein into the portal vein—anomalies which constitute abnormal illustrations of normal arrangement.=*London Lancet.*

NAPHTHALINE.—Fischer has thoroughly investigated the antiseptic properties of naphthaline, which has been used with great success as an antiseptic dressing at the Strassburg clinic. As a result of his observations he states that naphthaline is a very effective antimycotic and antibactenitic, and even concedes to it the property of exercising a certain influence upon inorganic ferments. In some comparative tests he demonstrates the fact that naphthaline is more reliable in checking certain forms of putrefication than iodoform.

Professor Kohte made the important observation, that in six weeks, during which the wards for scarlatina and diphtheria were freely sprinkled with naphthaline, not a single case of infection was reported, while prior to its use contagion was not a rare occurrence, hence it retains its virtue also when in gasseous form. Naphthaline is furthermore a potent poison against insects, (fleas, lice, mites, flies, mosquitoes, moths and spiders). It is well borne by birds and animals. When administered internally to dogs in large doses, it produces diarrhœa. It is excreted unaltered by the urine, which is sometimes dark colored, but never as black as that, which accompanies the administration of carbolic acid. Toxic symptoms have as yet not been observed, and it does not excite local irritation. It is applied directly upon wounds and ulcers. Its price is $\frac{1}{50}$ that of iodoform, and its odor is not as disagreeable.—*St. Petersburg Medical Wochenschrift.*

G. A. F.

THE CINCINNATI
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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, June 10th, 1882.

The Week.

AMERICAN MEDICAL COLLEGE ASSOCIATION.—It was a felicitous thought on the part of Professor Bodine to celebrate our 100th anniversary by inaugurating an advance in medical education in the United States.

The Association of Medical Colleges formed in 1876 accomplished much good and was felt to be a power in the country.

The flimsy pretext given by one of the most prominent New York schools for not joining the Association was that their laws of organization *in regard to beneficiaries* would prevent their conforming to the rules of the Association.

Because this school, being unfettered, might form a larger matriculation list, other schools feared theirs would become less and withdrew from the Association.

The "five per cent. of deadheads rule" of the Association they saw would dwindle their matriculation and graduation lists too much, and the Nestor of the profession turned the corpse over two years ago to the Anatomist, the incoming President, Professor Bodine, and the Eastern schools took their leave. These schools still have the assurance to send their circulars West and South, we presume to let the students of those parts know that the latch-strings are out should any attempts be made at unwarranted advances in the standard.

As the membership of the Association stood three years ago no school in the country could have lived even probably to the present day without either becoming a member, or making its standard to correspond with that of the Association. Some county societies had already come to the support of the Association by voting to recognize only the diplomas of such colleges as belonged to the Association, and in a very short time State Societies would have done the same.

Thus we see the foundation was being laid deep and strong and medical teaching bid fair to be clothed with a dignity becoming the noble calling.

No one would dare to do such violence to the intelligence of the general profession of the country to-day as to say it is satisfied with the present medical status.

There is already manifesting itself a feeling of impatience on the part of the profession for a higher standard and State Boards of Health are springing up, and medical schools are served with notices of their increased demands.

If we are not in error it was the determination of the West and South at the recent meeting of the Association of American Medical Colleges in Cincinnati, not only to second the steps of these State Boards, but to be able to say to them, we are prepared and have ordered another advance, will you support the column?

We trust mutual interest will be so construed by the medical teachers as to bring them together and next May at Nashville will witness, if we mistake not, the inauguration of such progress as will entitle our colleges to the consideration justly due them.

It is impossible to advance without union, with it everything is possible. If all are under the same law no one will have the advantage of the rest. If the signs of the times is read aright it will be found that "Excelsior" is to be the motto and it should be the ambition, as it is the duty, of the colleges to be the first to unfurl their banners.

To substantiate a remark made above we append an extract from the address by Dr. Reeves, of Wheeling, which has appeared since writing this article:

> "*Cheap Diplomas.*—It is shameful to acknowledge it but the truth must be told, strike where it may, that in this great country of ours, notwithstanding the long and loud clamor for higher medical education and the establishment of a Medical College Association to encourage a longer, more uniform and thorough course of study, a diploma is not always proof that its possessor is a duly qualified physician, or that he has attended even one full course of lectures, or that he has even attended lectures at all. In justification of this charge of bad faith on the part of medical colleges, I do not hesitate to furnish a case in point:
>
> On the 13th of last January an applicant for a medical certificate, a resident of West Virginia, came before the District Board at Wheeling, and failed to pass a satisfactory examination within the meaning of the law. Ten days later or about the 23d of January, he knocked at the door of the *Graduating Class* of the Columbus Medical College and was admitted. Within one month from that time he was graduated; and at the brilliant display at Comstock's Grand Opera House, on the evening of the 24th of February, he received his diploma!
>
> I have it from an eye witness that he presented to the Faculty letters of recommendation from prominent gentlemen in West Virginia, and that in the distinguished graduating class (which was spoken of by some of the professors as one of the brightest and best that ever came from that school) 'one man was graduated who did not know what the iris was, nor the pupil; could not locate the mitral nor tricuspid valves—placed the valvulæ conniventes in the *brain*, and the ileocecal valve in the *rectum!*' 'There were several of that sort, but they are just now as much doctors (in Ohio at least) as you or I.'
>
> What an impressive, never-to-be forgotten scene at the Commencement! The stage decorated with beautiful flowers—the orchestra discoursing sweet music and stirring the hearts of the audience—the Faculty, in double file, marching upon the stage—the 59 graduates taking their places in the front rows of the parquette—and the applause! and the bouquets! which greeted the new Doctors!! It was most appropriate that a *prayer* was then and there offered.
>
> But, unfortunately, this is not the only example that could be given of the ease with which college honors have been won by enterprising applicants. Some of the oldest aud most reputable colleges in this country have, now and then, been guilty of relaxing the rules to accommodate *special* cases and thus done injustice to the profession."

THE AMERICAN MEDICAL ASSOCIATION at its late meeting at St. Paul absolutely refused to receive delegates with credentials from the New York State Medical Society on account of the action of that Society in adopting a new fangled code of ethics. The action of the Association was enthusiastic and we believe entirely unanimous. We anticipate the early notice of an organization yclept THE AMERICAN MEDICAL ASSOCIATION OF NEW YORK SPECIALISTS. The New American will be fortunate in having an already well established organ with a ready-made editor, through which to float its wares, and will thus be saved the risk, unavoidable friction and necessary expense attending the publication of a new journal. The old American Association has taken a new departure in abolishing that cemetery of medical literature known as its "Annual Volume of Transactions," and determined on *The American Medical Association Journal* as its substitute. We will now look for an American Ernest Hart, who will be the Atlas to carry the new publication into a successful career, and will say all honor and glory to the man who proves himself equal to the occasion.

MITCHELL DISTRICT MEDICAL SOCIETY.—The twenty-fifth annual meeting of the Mitchell District Medical Society will be held at the Normal College Hall, Mitchell, Ind., Tuesday and Wednesday, June 20 and 21, 1882. Sessions convene at 10 a.m., 2 p.m. and 7:30 p.m.

TUESDAY, JUNE 20, 1882.—MORNING SESSION.

1. Roll-call. Reading minutes of previous meeting.
2. President's address. By G. W. Burton, M.D., Mitchell.
3. Paper. By Geo. S. Hancock, M.D., Campbellsburg.
4. Volunteer papers.

AFTERNOON SESSION.

5. "The Drug Department of the Doctor's Office." By W. H. Lopp, M.D., Columbus.
6. "Medical Culture." By J. C. Pearson, M.D., Mitchell.
7. Report of "Committee on Cause of Fever." By G. Q. Orvis, M.D., Chairman, Seymour.

EVENING SESSION.

8. Public Address "The Relations of the Medical Profession and the Public." By Prof. R. A. Vance, Cleveland, O.

WEDNESDAY, JUNE 21, 1882.—MORNING SESSION.

1. "Medical History." By S. A. Rariden, M.D., Bedford.
2. Discussion of "Puerperal Peritonitis." Opened by S. H. Charlton, M.D., Seymour.
3. "Cellulitis" with Case. By A. E. Berry, M.D., Riverdale.
4. "Pathology and Etiology of Milk Sickness." By J. Gardner, M.D., Bedford.

AFTERNOON SESSION.

5. "The Rectum, its Diseases and the Influence of such Diseases upon other Organs." By Prof. Wm. Clendenin, Cincinnati, O.

6. Discussion on "Membranous Dysmenorrhœa." Opened by E. D. Laughlin, M. D., Orleans.

7. Case Reports.

EVENING SESSION.

8. "My European Tour." By N. D. Gaddy, M.D., Lovett.

OFFICERS.

President, G. W. Burton, M.D., Mitchell, Ind.

Vice-President, [1]J. B. Grove, M.D., Columbus, Ind.

Secretary, C. E. Laughlin, M.D., Orleans, Ind.

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Committee of Arrangements—E. S. McIntire, M.D., Mitchell; J. C. Pearson, M.D., Mitchell; J. B. Larkin, M.D., Mitchell; A. F. Berry, M.D., Riverdale: A. J. McDonald, M.D., Mitchell.

HOTEL RATES.

Putnam House, $2 00 per day; Arlington Hotel, $2.00 per day; Dayson House, $2.00 per day; Browning House, $1.50 per day; Blackwell House, $1.50 per day.

RAILROAD RATES.

L. N. A. & C. R.R. will charge delegates and visitors three cents a mile.

O. & M. R.R., fare and one-third for round trip.

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[1] Deceased since last meeting.

Bibliography.

Fünf Lustren Ophthalmologischer Wirksamkeit.

Von Dr. Med. Albert Mooren, Dirigirendem Artz Städtischen Augenklinic zu Düsseldorf. Wiesbaden, Verlag von J. F. Bergmann, 1882.

Five lustres of Ophthalmic Practice. By Dr. Med. Albert Mooren, Physician in Chief of the Düsseldorf Eye Clinic.

This volume of thirty-four pages embraces the clinical details of the author's ophthalmic practice for twenty-five years. In these five lustres he was visited by the marvellous number of 108,416 patients, whose names appear but once on the pages of his journals. The author says when he began his work, he was regarded as one of the "doomed ones," so delicate was his health, but he breathed the musty atmosphere of the klinik for five and twenty years and saw his health grow better day by day.

He boasts that all stations of life, all climes and lands, the region of the Ural, the sunny fields of Andalusia, the new world from the mouth of the St. Lawrence to Buenos Ayres, the west coast of Oregon to Santiago de Chili in the remotest South, the small Asiatic and Syrian cities, those of North Africa, Lapland, India and South Australia, the West Indies, and those islands whose lonely shores, like the Isle de Bourbon, Madagascar, the Holandish Indies, the Philippine Isles and Japan, are washed by the waves of the great Indian and Pacific Oceans, have brought their contingent of sufferers for his operative skill and advice.

At the end of the year 1857 he had had 2000 patients, and had made 300 major operations. His average number of patients for the twenty-five years was 4,337.

The statistics for the various months are of interest and were as follows:

January	6,516.
February	7,648.
March	8,240.
April	9,720.
May	10,588.
June	11,424.
July	10 882.
August	10,363.
September	10,705.
October	8,831.
November	7,534.
December	5,966.
	108,415.

He made in this period 2,330 cataract extractions by scleral section, 542 by corneal, and 368 by discision (needle)=3,240.

Secondary operations (lacerations of capsular cataract), 766; 979 artificial pupils, by iridectomy; 327 by iridotomy; 5,043 tenotomies for strabismus; 222 readjustments of the muscles; 761 enucleations; 614 other major operations; in all 17,952 operations.

He has not included among these those small operatious, such as puncturing corneal abscesses, opening styes, tarsoraphies, slitting the puncta, removal of foreign bodies from the cornea, etc.

Such a record of professional activity commands admiration. We propose to call attention in a subsequent number to some of the authors observations on therapeutics. W.W.S.

"The Incidental Effects of Drugs."[1]

This work of two hundred and twenty-nine pages is a careful review of the various incidental and peculiar effects of various drugs. The usual effects of drugs are supposed to be known to all who practice medicine understandingly, but occasionally certain peculiar and unlooked for things happen after the giving of various medicines, and it is to a consideration of these abnormalities that the book is given. It begins with an introduction treating of the causes of, and a general description of the peculiarities oftenest met with. There then follows a careful review of the various drugs of the pharmacopœa and the incidental effects therefrom. The book is carefully written and has a particular value in being the only work devoted to this subject.

It is exceedingly valuable as a work of reference. The binding and printing leave nothing to be desired.

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[1] By Dr. L. Lewen, Assistant at the Pharmacological Institute of Berlin. Translated by W. T. Alexander, M.D. New York: Wm. Wood & Co. For Sale by Robert Clarke & Co., Cincinnati.

Original Communications.

A CASE OF OVARIAN CYST. PERITONITIS-OVARIOTOMY-RECOVERY. COMMENTARY.

By C. D. Palmer, M. D.
Professor of Gynæcology in the Medical College of Ohio.

I report this case of ovariotomy, not because it is a rare operation, or recoveries therefrom are uncommon, but because I think that more than the usual interest is attached to some of its features.

Mrs. K. L——. during the spring of 1881, had an attack of cerebro-spinal meningitis of some two months duration. During the early part of this sickness, in making the diagnosis of the case, I discovered in the right iliac region a round tumor, slightly fluctuating, about the size of an ordinary orange, which, on cross-questioning, patient thought she had felt some few months before. After convalescence the tumor was examined more closely, and diagnosed as an ovarian cyst; and several months subsequently, when it had assumed twice its former dimensions, as unilocular. Sometime in the fall, at the solicitation of some friend, my friend Dr. Dawson examined the case, and also diagnosed the tumor as unilocular ovarian. Her general health was now good, menstruation regular though painful. At this time the tumor at its upper border reached to the umbilicus. As is customary in such cases, when the general health is good and not depreciating, when the tumor is not very large nor interfering with the surrounding organs, I concluded to postpone an operation for its removal till it was much larger, the abdominal walls thinner, and the general health showed signs of the advancing disease. Accordingly, the patient was watched from time to time, and it was presumed from the past rate of development that the time for operation would come in the spring of 1882.

The tumor, after a satisfactory diagnosis was arrived at, was at no time interfered with by further examination, nor the uterus by sounding. Tapping also was abstained from, as being unnecessary either for diagnosis or palliation.

Early in January, unexpectedly and without any apparent cause, patient commenced to complain of pain of a colic like nature in the region of the right hypochondrium. The symptoms had continued a number of days without confining her to bed, or before she asked aid; and while relieved temporarily by rest and opiates, they repeated themselves at more frequent intervals and greater severity, till in a few weeks she was confined to her bed altogether. The stomach became irritable, the tongue red and smooth, the surface of the abdomenaround the tumor tender, the bowels obstinately constipated, and a slight febrile movement, with very frequent and feeble pulse, made up the programme from day to day. Now better, now worse—the patient seemed in no condition for the radical removal of the cyst, although it had by this time obtained the size of the pregnant uterus of the seventh month, was growing, and it was plainly the offending cause of what proved to be an insidious peritonitis everywhere surrounding it. I began to loose hope that her condition could be made any better, when gradually the symptoms abated sufficiently for her to retain some food and regain strength enough to allow her to sit up an hour or so each day. It was concluded to wait no longer. The operation was determined upon under circumstances anything but favorable for a successful result. My friend, Dr. Fishburn, who saw the patient a number of times, and who was well acquainted with her when in good health, as well as all the gentlemen who participated in the operation, regarded the chances for recovery as very slight indeed. She was not only feeble but greatly emaciated, had a pulse constantly ranging from 110-125, and and evening temperature of 101°-102° F.; but withal, was cheerful and calmly resigned to the operation. She was given warm sponge baths on alternate days for a week before the day set for the removal of the cyst, March 6th. Took the A. C. E. mixture nicely administered by Dr. Mosenmeier, after a full dose of stimulant.

I was kindly and ably assisted by Drs. Dawson, Coffman, P. Dandridge, Fishburn, and E. G. Zinke. The carbolized spray was not used, but all instruments and sponges were thoroughly cleansed in hot water, and afterwards in 5% solution of carbolic acid.

The abdominal incision from the umbilicus to near the symphysis pubes, and subsequently to the left and one inch above the former, encountered quite vascular tissues, and made necessary the ligation of one artery. The exposure of the the cyst showed adhesions over every minute surface, short, thick, vascular, but readily breaking down by manipulation with the fingers. So closely was the cyst wall glued, as it were, to the abdominal wall, that at first it appeared as if the peritoneum itself was being stripped from the abdominal parietes. This character of adhesions compelled the long incision referred to. Entering with fingers and hands the abdominal cavity, I found the cyst extensively attached in every direction to the whole anterior and lateral abdominal wall, the omentum, liver, colon, and small intestines. It would be impossible to conceive of a more difficult or embarrassing condition of affairs than was afforded by this complication. After tapping with Emmet's trocar, but before a full evacuation of the contents of the cyst, the efforts at separation from the surrounding attachments ruptured in one place the already rotten wall of the cyst, and there accidentally poured forth a considerable quantity of the colloid fluid in the peritoneal cavity. So close and thorough were the attachments to the intestines that the line of demarkation could with difficulty be determined, and it required no inconsiderable care to prevent laceration of there walls. At one time, it was feared this accident had occurred.

The cyst broken away by fingers and scalpel handle from its adhesions, its pedicle of moderate length and size was transfixed with needle and silk, each half separately tied, cut short and the whole dropped into the peitoneal cavity.

The greatest care was now taken to thoroughly cleanse the peritoneal cavity of the inflammatory products, serum, pus, etc., and the cyst contents, which had accidentally escaped. For this purpose the sponges first used were employed, and finally, the soft silk carbolized sponges dipped in hot water, reserved for the occasion. No small amount of time was consumed in this portion of the operation, for success, if any, seemed to be dependent on its thorough execution. A long glass tube was placed in the bottom of Douglass' cul de sac, and around it the abdominal wall was closed with silk sutures, passed deeply through the peritoneum, the abdomen covered with carbolized cotton and flannel bandages, the patient placed in bed with an abundance of artificial heat to the extremities, and a hypodermic injection of morphia (¼ grain) administered.

During the latter part of the operation, which consumed about one hour, the condition of the patient became extremely feeble. It was only by a withdrawal of the anæsthetic, together with the faithful and persistent administration of whiskey hypodermically, by Dr. Zinke, that life was maintained.

Her condition remained critical during the first twelve hours following the operation. The stomach was too irritable to attempt the ingestion of any, even liquid food. A small allowance of iced champagne was vomited, so *it* was discontinued. She was nourished entirely by the rectum with beef essence (℥ viii), and whiskey (℥ ii) alternately, every four hours, for the first ten days. Morphia, hypodermically, was given to quiet pain and secure rest. The first nourishment by the stomach was milk and lime water. The glass drainage tube discharged from ℥i to ℥ii of bloody serum the first three days. A smaller and shorter tube was then substituted for the glass for as many more days, and finally a section of a *Nelaton* catheter was kept in position for two weeks longer. This latter procedure became necessary on account of the copious purulent discharge after the fifth day, which continued to flow from the peritoneal surfaces. Through this tube, the peritoneal cavity was freely and thoroughly washed out, twice daily, for the most part at regular intervals, with warm water, slightly corbolized, and the abdominal wound covered with antiseptic dressings. The quantity of purulent matter discharged was very large—estimated at ℥iv — ℥vi daily. Any neglect to cleanse the peritoneum at stated intervals, rendered the pus fœtid, and the temperature and pulse correspondingly high. At one evening (10th day), the latter reached 105° F. It was not till the end of the 4th week that the discharge from the peritoneum had entirely ceased, when the abdominal wound closed, the union remaining firm. Every function now resumed it regular movement. Even menstruation which had been suspended for months prior to the operation, returned painlessly and normally. With these there was a gradual renewal of life, in color, weight, strength and spirits.

The special points of interest in the case are:

1st. The *supervention of peritonitis without any special exciting cause.* There was, of course, a cause for the peritonitis, and that cause undoubtedly was the tumor itself. But it was certainly a rare occurrence for a unilocular cyst to set up such extensive inflammatory action. Had the tumor been roughly handled, had its walls been pnctured by tapping, and any of its contents escaped into the peritoneal cavity, such a complication might have been expected. While the presence of adhesions around ovarian cysts are, as a rule, more or less extensively found, they are by far more frequent and extensive, when the cyst is of the multilocular variety.

2d. The *propriety* of *ovariotomy* when there is *existing peritonitis.* Ovariotomy, it is true, has proved to be successful when peritonitis has been fully established. Cases, though not numerous, have been reported by several operators. The rule now is, if peritonitis, or symptoms indicating its inception, follow tapping, to delay not, but proceed at once with the radical extirpation of the cyst. The reasons are apparent. Final success, if any, must come from ovariotomy. There is great danger that delay and the progress of the peritoneal inflammation, will carry off the patient. Should she possibly recover from this, the remaining adhesions only complicate the final operation.

But under conditions like unto the case reported, when peritonitis stealthfully makes its march, shall we wait for the abatement of the complication, or proceed with the cyst removal? Most operators, I think, would be disposed to wait, for the present at least, in hope that by rest and medication, the inflammation will abate and the chances for an operation improve. There are circumstances in which delay may be fatal. Each case must be decided on its own merits. In considering this subject more fully, I am well convinced, that the serious and even fatal mistake is quite often made in the postponement of ovariotomy till the tumor has assumed large proportions, and thereby does mischief by its great size, and also until the geueral health has sensibly declined. When the tumor has reached moderate proportions, and the diagnosis is clearly established that it is ovarian and cystic, there is, as a rule, other things being equal, nothing gained by waiting and watching developements, and until drain has made serious inroads on the general health. It stands to reason that the chances for recovery are better for so radical operation as ovariotomy, with the patient in good instead of declining health,

3d. *Thorough cleansiug* of the *peritoneal cavity.* —This is by no means a new idea. Its importance has been fully discussed and its value appreciated. The case reported only illustrates the point. Not only were the peritoneal surfaces thoroughly wiped dry with clean soft sponges, but every attempt was made to keep them so by free injections of carbolized water. It is not improbable that the employment of the carbolized spray is not only unnecessary but is apt to do harm. Absolute cleanliness of patient, room, bed, dressings, instruments, operator and assistants, every thing and everybody, is the key note of antiseptic precautions.

4th. No case of benign ovarian cystoma seems too desperate for operation of removal. Possibly, this may be stating the case somewhat stronger than all circumstances will warrant; nevertheless, it can stand as a rule to which there are very few exceptions, indeed. Success has attended ovariotomy under the conditions of extreme emaciation, great bodily feebleness, much functional disturbances of important viscera, co-existent peritoneal and cyst wall inflammation, etc.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of May 22d, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

Hepatic Abscess—Hepatotomy.
Cholelithiasis—Aspiration.

Dr. Ransohoff read an interesting paper on Hepatotomy for Abscess of the Liver. The patient on whom the operation had been performed was shown to the Academy by the essayist in order to show the extent of the incision, which amounted to several inches, and the success in ultimately securing a closing of the wound.

The same speaker also referred to a case which he had seen with Dr. Whittaker and on whom aspiration of the gall bladder had been made in order to establish the diagnosis for gall stones. This patient, however, did not recover.

DISCUSSION.

Dr. Cassat congratulated Dr. Ransohoft on his brilliant success attained in this case remarking that it was a great triumph in surgery. To his knowledge such an operation had not been attempted before for the relief of abscess of the liver. He had seen quite a number of cases tapped in the Cincinnati Hospital and all of them died in spite of the operation. He witnessed several autopsies made on such cases when the sloughs were so extensive that it had been impossible for them to pass through the canula. He felt confident that some of these cases could have been saved had they been operated on as the one presented this evening. He must confess that the use of the aspirator had never been successful in his hands and was sure that those cases that recovered did so in spite of the treatment and of the physician.

Dr. E. G. Zinke said he must also admire the courage and skill of the operator. But formidable as the operation might appear it was not more so than the excision of the pylorus for cancer or the removal of the uterus and appendages for ovarian tumor. He was also not aware of another case being on record similar to the one just described. The success obtained ought certainly to encourage a spirit of emulation. As Dr. Ransohoff said, the abscess was drained of its contents and the cavity thoroughly inspected by means of a laryngoscopic mirror, which permitted a thorough removal of all broken down material. How much may be attained by attention to drainage and proper cleansing of cavities was illustrated in this case as well as in one he would now relate. Prof. Palmer some time ago operated for a unilocular ovarian cyst, but before the removal the sac burst, filling the whole cavity of the abdomen with pus. The patient was turned to one side, the fluid allowed to flow out and after the cyst had been removed the abdominal cavity was carefully sponged out. The patient made a good recovery although the abdominal cavity had been entirely bathed in pus.

Dr. Ransohoff remarked that his was not the first but the second case of hepatotomy for abscess of the liver. Dr. Lawson Tait reported the first case but it differed in several particulars: 1. As to the amount of fluid withdrawn; this being twenty ounces whereas the quantity in his own case was about one gallon; 2. As the operation was performed with the thermocautery not a drop of blood was lost; 3. Constant irrigation of the cavity was made.

The speaker would, however, like to hear some criticism on his second case, which did not turn out so successful, namely, the aspiration of the gall bladder for gall stones.

Dr. Young said he could add his testimony to the great fatality of abscess of the liver. In the Cincinnati Hospital almost every case perished. It is a singular fact that the quantity discharged is often not adequate to the size of the abscess as found post mortem. He remembered one case where he opened an abscess at the twelfth rib and inserted a tent; three pints of pus of a bad character, watery, bloody and fetid, were removed by the aspirator. Two weeks afterwards the patient expectorated pus and died in four of five weeks. The autopsy showed a small abscess cavity connecting with the lung; the bowels were ulcerated, the patient having been subject to dysentery.

The speaker was, however, entirely opposed to irrigation, he having become so convinced of its absolute uselessness that he had abandoned it altogether. In his opinion the utter worthlessness of irrigation was shown in the case of the late President. He had treated a number of patients by inserting tubes into different cavities as the pleura, liver, pelvis, etc., and poured in solutions of carbolic acid, Labarraque's solution, sulphate of copper (which he considered superior to everything, even to carbolic acid), but all proved of no avail. He thought it singular that some surgeons should so uniformly succeed in aspirating the liver and restoring patients to health when others have had quite the contrary experience. He was inclined to believe that some of these gentlemen were not honest in their statements. The simple withdrawal of pus will not cure a patient; if the discharge is healthy, then it is all right, but if unhealthy, the process will continue, and as long as the patient's health is not restored by tonics, etc., we can expect no benefit—no matter what is injected into the cavity.

Dr. Walker thought that the treatment in Dr. Ransohoff's first case was quite rational. It is a well laid down law that drainage will prevent pyemia. The free washing out of pus, to his knowledge, never was followed by pyemia. Where, however, there is a pyogenic membrane in the liver it is useless to aspirate; the pus will recur again and again. If the abscess points in any special direction it ought to be opened immediately and washed out thoroughly. He would, however, call attention more particularly to the second case, that of aspiration of the gall-bladder. The brilliant part in this operation was the fact that it had been performed for the purpose of establishing the diagnosis. When we look upon the *treatment* of the case the benefit to be derived from excision of the gall-stones becomes more questionable. What is to be done after the removal of these calculi? The patient will be in the same condition as before. If the bile duct be closed and it be possible to remove all the stones, then the case may be saved by an operation. But the difficulty lies in determining whether the duct be entirely free; even if the operator had passed a probe down into the duct there might have been a small stone somewhere lower in the canal which eluded his grasp, or even if he had succeeded in removing each and every stone there might have been a stricture beyond the site of the smallest calculus.

As said before the case was remarkable from the fact that (as far as he knew) it was the first instance where the gall bladder was aspirated for the purpose of diagnosis.

Dr. Hyndman said that he understood that after the operation the temperature in Dr. Ransohoff's case never exceeded 103° and reached this point only in the first week or ten days. This would contradict Dr. Young's statement that the temperature is increased. If Dr. Young had seen the mass remaining through the opening he certainly would not have hesitated in cutting.

Dr. Davy said that the cases of abscess of the liver suitable for operation must be carefully selected. Dr. Ransohoff's operation is not applicable to every case; unless the point be superficial we should not think of resorting to it. He could not endorse the remark that aspiration is not beneficial at any time. In the liver as well as in other organs there may be a sudden collection of fluid for which we can often aspirate with success; the abscess disappears as certainly as the fluid in a pleural cavity. In abscesses of the liver we must consider what part of the organ is affected and where is its tendency to point. When this is external nature must be assisted by a timely operation. Drainage by means of tubes is very important. Sometimes, however, nature will affect a cure even where the abscess is very extensive. Some years ago the speaker had a case where an abscess formed in the upper part of the liver; it pointed upwards, absorbed the diaphragm, pressed into the lung until it broke into the bronchial tube and finally discharged wholly through the mouth. The cavity obliterated and the man recovered. Here there was no drainage at all, but the danger of septicemia was avoided because no air could enter the cavity. This gives us a practical point in opening an abscess; if a valvular opening be made to shut out the air, septicemia will be prevented.

As for the second case, if he remembered correctly, aspiration of the gall-bladder was suggested previously by some gentleman in Columbus. In the case reported the operation was at least justifiable because the patient would at any rate have died in a short time. The operation might give him a chance of life, and it is not presumable that anything else would have afforded him any relief. He did not understand that the operation was intended to cure the patient. As a means of diagnosis he placed less stress upon aspiration of the gall bladder than other speakers before him.

Dr. Ransohoff, in concluding the discussion, said that he owed thanks to Dr. Walker for originality in discussing the justifiability of the operation of cholelithotomy, as a great deal might be said adverse to such a measure. The patient was seventy-six years of age, a time of life when any serious operation might prove fatal. This man, however, was of good physique, had never been ill in his life, and looked more like sixty than seventy years of age. During the last five or six months he had lost flesh, the feet had become œdematous and his end was only a question of time. Under such circumstances an operation was justifiable if he had but one chance to live. If in this man there had been a strangulated hernia, whatever his age, and a surgeon had refused to operate he would most certainly have been condemned. In this instance the case was analogous. The question arises if his condition would have improved had the operation proved successful? He would not have a fistula if the common or cystic duct were free, both of which were patent. That an opening of this nature could heal of itself might be seen from those cases where an injury in this region had been accidental. Whether a removal of the gall-stones would save life was doubtful and could not be determined beforehand; the probability of cure could only be determined after the operation had been performed. The chances for or against the presence of a stricture must always be taken. In the case under discussion, in the speaker's opinion, all of the stones were removed and he was convinced there could be no stricture because the probe could pass easily into the cystic duct. Although this patient unfortunately died, the speaker would operate again if a like case presented itself, because if unrelieved death will inevitably result sooner or later. Where there is an impaction an operation is justifiable, for although the gall bladder may sometimes be found filled with stones, without having caused any symptoms during life, an impaction is certain to be followed by death.

He could only corroborate Dr. Walker's remarks on aspiration of the liver. Where there is a tendency to the development of shreds, aspiration is ineffective; the canula will be stopped by such membrane during aspiration. It is not prudent to delay till the abscess points, because frequently if we wait that long the patient will die. When it does point it is easy to open an abscess, but the object is to do it before. He has had full faith in irrigation because it does remove pus, and when done with warm water, acts as a poultice.

Academy of Medicine.—Dr. Chas. F. Locke will read a paper on "Varicocele," Monday, June 19th, 1882.

CINCINNATI MEDICAL SOCIETY.

Meeting of May 22nd, 1882.

GUSTAV BRÜHL, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

DR. PHILIP ZENNER read the following paper:

Electro-diagnosis. "Reaction of Degeneration."

It has long been observed that in some cases of paralysis there was wasting, in others non-wasting of the paralyzed muscles. But only recently has it been determined where and why atrophy occurs.

In paralysis due to central lesions there is no wasting of the paralyzed limbs, even though the disease be of many years standing.

In peripheral paralysis, atrophy of paralyzed muscles often occurs.

Why this difference?

In the first case the muscle is cut off from communication with the cerebral convolutions, the center for volition; and there is, therefore, paralysis of voluntary muscles, but the local nutrition is not impaired. In the second case the muscle is also separated from its trophic centre, and therefore its substance degenerates.

The muscle, the nerve supplying it, and the ganglion cells in which that nerve has its origin (in case of the spinal nerves the ganglion cells, in the anterior cornua), and which are its trophic centre, may be contemplated as a single organ. They have, if you will allow the expression, an individual vitality.

If the ganglion cells are destroyed the nerve degenerates—the muscle wastes. If the muscle is in any way separated from its trophic centre, for example, through injury to the nerve, the nerve below the seat of injury degenerates, the muscle wastes.

Then, injury to any part of this peripheral nervous tract finds its expression in degeneration of nerve and atrophy of muscle. These cases of paralysis we will term, if you will accept the appellation in a broader sense than that usually given it, peripheral paralysis, their common clinical manifestation being muscular atrophy.

Now, muscular atrophy is not the only indication of such peripheral lesions. There is another symptom, which, appearing earlier than the atrophy, and in many cases where the latter does not occur, is even more valuable for diagnosis. That is the altered electrical reaction of nerve and muscle.

More than twenty years ago, occasional differences were observed in the electrical reaction of paralyzed muscles; but we are indebted to Erb for a full and clear exposition of this subject. He has found that the electrical reaction of paralyzed muscles in case of central paralysis varies in no way from that of normal muscles. But in those cases, which we have termed peripheral paralysis, he found a complete change in the laws of electro-irritability; and to the electrical reaction of paralyzed muscles, found in such cases, he has applied the name, "Reaction of Degeneration."

The object of this paper is to briefly describe this "Reaction of Degeneration," and mention something of its diagnostic value.

In speaking of electrical reaction we must distinctly separate the effect of electrical irritation of the nerve and electrical irritation of the muscle.

In normal cases, when electrictiy is applied to a nerve (in making the application one electrode should be placed on an indifferent portion of the body, as nape of neck, the other on the nerve or muscle to be tested), whether the faradic or galvanic current, it is followed by contraction of all the muscles supplied by that nerve. In the reaction of degeneration the nerve ceases to respond to either current. The electro-irritability of the nerve is lost.

When the electrode is applied to the muscle, a great difference is observed in the effects of the two currents.

The muscle does not respond at all to the faradic or interrupted current, however strong the current may be.

The muscle responds very readily to the galvanic current—even to a much weaker current than in health. At the same time there is a change in the order and manner of the contractions. Contractions occur only when the current is closed or opened. Hence, four kinds of contractions can be distinguished, depending on which pole is applied and whether the current is opened or closed.

These contractions are (1) the cathode closure contraction (C C C), occurring where the cathode (negative pole) is applied to the muscle and the current closed; (2) the anode opening contraction (A O C), the contraction occurring when the anode (positive pole) is applied to the muscle and the current opened; (3) the anode closure contraction (A C C); (4) the cathode opening contraction (C O C).

All these contractions do not occur with the same strength of current. The least is required to produce the cathode closure contraction, a somewhat stronger current is required for the anode opening or closure contraction; and a much stronger current is necessary to produce the cathode opening contraction.

So

C C C
A O C
A C C
C O C

Represents the formula for muscular contractions in normal cases, the first requiring the least, the last the greatest strength of current.

Now, in the reaction of degeneration this formula is entirely changed. The anode closure contraction occurs as soon as or before the cathode closure contraction, the cathode opening contraction as soon as or before the anode opening contraction.

There is also a change in the manner of the contractions. Normally, they are quick and sharp; here they are slow and continued.

Now, we have given the main features of the reaction of degeneration.

To resume briefly: The electro-irritability of the nerve is extinguished, the farado-muscular contractility is abolished, the galvano-muscular contractility is heightened and qualitatively altered.

An examination to obtain the above facts requires great care and much time. Practically it will often suffice to test the muscles with the faradic current; for if the farado-muscular contractility is lost it is highly probable that the case belongs to those above given.

What we have just described is the typical reaction of degeneration. It corresponds to certain degenerative changes in nerve and muscle.

But it must not be supposed that in all cases of what we have termed peripheral paralysis this typical reaction can be obtained. First, it requires time for its manifestation. In case of lesion of the nerve on its trophic centre, the change in the electro-irritability of the nerve begins gradually, and a few weeks may pass before it is extinguished. In the muscle the change begins still later, and a longer time elapses before the typical reaction is obtained. In case of only slight degeneration of nerve and muscle, typical reaction of degeneration will never be obtained. If the degeneration is complete and the muscle atrophies, all electro-irritability will be abolished. Thus it will readily be seen that this reaction will vary in its different features, as the change in nerve and muscle are slight or considerable, as the disease is increasing, improving or incurable.

It will also be understood that this reaction is not found in all cases of peripheral paralysis, in some on account of the lightness of the disease, in others for other reasons that I cannot enter into here.

The disease in which the reaction of degeneration may be found may be thus summarized: Affections of the nerve, as neuritis, traumatism, pressure from tumor or other causes; disease of the trophic centres; prolio myelitis (inflammation of the gray matter of the cord).

Allow me to mention a few cases more in detail which show the value of this diagnostic test.

One is suddenly seized with a facial paralysis. It is the so-called rheumatic paralysis. Cases of this kind may be divided into three classes according to the intensity and duration of the disease. In the first the paralysis does not usually continue longer than a month. In the second it may last several months. In the third it continues a long time—perhaps is incurable.

In the first class there will never be any reaction of degeneration. In the second, after the lapse of a few weeks, this reaction can partially be obtained. In the third, after ten or twelve days, the typical reaction can be obtained. In this case our test may be of great prognostic value.

Another case: You are called to an infant; it has fever; it does not move its limbs. Is it a case of rheumatism, and are the limbs motionless on account of the pain movement would cause; or is it a case of acute prolio myelitis, infantile paralysis, and the limbs motionless because paralyzed? The faradic current will, perhaps, decide that question.

In the latter case if sufficient time has elapsed (in some cases a few days will suffice), the muscles will not contract on application of the faradic current, and the diagnosis is made.

This electrical test has enabled us to determine the pathological anatomy of ordinary lead palsy, wrist drop, so long a mooted question. In this disease the typical reaction of degeneration can be obtained. We know, then, the disease belongs to the group we have termed peripheral paralysis. The only question is in what part of the muscle nerve or ganglion cells is the disease to be sought. The fact of the symmetery of the disease on both sides and some other clinical features, as well as a few pathological observations, help us to place it in the ganglion cells of the anterior cornuæ.

Lastly, I will only refer to many cases of paralysis, obscure in their nature, especially such as accompany some acute diseases. In some of these this test has already proven of service in throwing some light on their pathology, and we may hope for more light from the same source by careful observations in the future.

DISCUSSION.

Dr. Comegys remarked that he could add nothing to the careful and accurate study of the subject by Dr. Zenner. It has long been known that, in facial paralysis, the muscles respond readily to the galvanic, but are not at all influenced by the faradic current.

The reason of this is not known, unless it be that the to and fro movement of the faradic current is insufficient to saturate the nerve.

The Doctor remarked further, that, while on this subject of facial paralysis he would say it is not safe to promise a cure of that disease under from three to six months.

Dr. Zenner stated that the reason given by Dr. Comegys for the negative effect of the faradic current had been proven to be a true one. It had been shown that the galvanic current, when interrupted at very short intervals, was just as powerless as the faradic.

Dr. Carson remarked that he thought this a good opportunity to express views upon the value of electricity as a therapeutical agent. He considered it chiefly valuable for diagnostic purposes, and had little faith in its curative powers.

Dr. Comegys stated that he had not been carried away by the electrical craze. He regarded it as a tonic and stimulant to the nervous system, and an agent calculated more often to do harm than good; its constant use exhausts the excitability of the nerve tissue.

In some form of paralysis he regarded it as a good agent to exercise the contractility of muscles, and thus save them from the waste of disuetude.

He had no faith in it as a curative in paralysis from organic lesions. He had known cases greatly damaged by its continued use. In sciatica not due to organic lesion, he believed it to be of some value, but not near so efficacious as the hypodermic injection of ether.

In certain forms of neuralgia, he thought the faradic current to be of great use in relieving pain.

Static electricity, by its sudden shock, he thought to be of much benefit in nervous aphonia,

Dr. Davy said that where electricity causes contraction of muscle, it must do good; for, when contraction occurs, blood rushes in and nutrition is increased. Of course, it is of little value as compured with voluntary exercise where that is practicable.

When paralysis depends upon a clot, we must expect electricity to have some effect in causing or hastening absorption of the clot.

In neuralgia it is just as apt to increase as to diminish the trouble.

The difficulty about the use of electricity as a remedial agent is that it is not understood; its mode of action is not well known.

Dr. Zenner said that disappointment must be expected in all panaceas. Salicylic acid is a very valuable remedy; but it has not by any means accomplished all that was claimed for it. The case is the same with electricity. Too much must not be expected from it in paralysis of a limb from organic lesion. In infantile paralysis when when the myelitis is not too extensive, though it will not cure, it certainly will leave the limbs in better condition.

A great deal of confusion in estimating the curative powers of electricity arises from the fact that no two practitioners use the agent alike, either in strength or mode of application.

He had certainly seen good effects from its use, and mentioned a case of paralysis with aphasia whicn he had seen in London.

This was a case of eleven years standing and had not yielded to any form of treatment until the faradic current was resorted to, when improvement was sudden and rapid.

Dr. Carson said there is a wide difference between the physiological and therapeutical effects of electricity. Dr. Zenner's statement of the difference of strength and mode of using it only shows an unsettled opinion or want of attention to the subject. He had recently seen two cases of paralysis with aphasia.

In both of these cases improvement commenced suddenly at about three months, and up to a certain point progressed rapidly without the use of electricity, or, in fact, any other special treatment. Had electricity been used as in Dr. Zenner's case the result would have attributed to that agent. The profession in general do not accept entirely the statements of results as given by specialists in electivity.

Tbese are some of the liabilites to falacy in establishing the value of a remedy from which so much is demanded.

DISCUSSION OF DR. DAVY'S PAPER.

[Published in our last Issue.]

Dr. Carson had seen Dr. Davy's case, and considered it interesting in several points of view. It showed a group of symptoms, which in varying combinations, marks the period of advanced senile degeneration. He had, a number of times, spoken of some of these as pertainiug to heart, stomach, and brain, sometimes the stress is thrown on one of these organs, sometimes on another, thus diversifying the clinical scene, yet each contributing its part and producing an essential unity.

In Dr. Davy's case the striking symptom was the Cheyne-Stokes respiration, as the Doctor has carefully described it. It was intensified by the effect of codeine, but existed still after its influence had passed off. The origin of it was probably two fold: first, a degenerated heart and imperfect blood supply to the brain in general; and, second, even that amount being impeded in its course to the respiratory centres by senile changess in the vessels at the base of the brain. Some of us saw a very characteristic case of Cheyne-Stokes respiration a short time since, where there was left hemiplegia and also a degenerated heart. The patient survived twelve or fourteen days, and there was no change in the peculiar symptoms.

He (Dr. Carson) had before reported cases where the initial symptoms were stomachic, and were supposed to be simply and only such. Yet they were only the prelude to an attack of hemiplegia, and were associated with organic and senile heart changes. He has now a case of organic heart change in a man 63 years of age, who at this time cannot finish a meal because the moment he begins to eat his dispnœa is so great that he must stop for a considerable time. He has been temporarily aphonic and also delirious.

The practical poiht is to recognize that these cases are a result of abnormal symptoms developed between all of these organs and not by disease of any one of them alone.

They do not represent the disease of any one organ but of several organs.

Correspondence.

SPINA BIFIDA.

Editors Lancet and Clinic:

The case of "Spina Bifida" reported to the Academy of Medicine of Cincinnati, May 8th, 1882, reminds me of a very remarkable case that I had in March, 1872. I still have the dried spinal column complete. The parents were pictures of health, and the family histories were reported good on both sides. It was a breech presentation, the labor not difficult, and, so far as the mother was concerned, as favorable as previous labors. The child lived about one hour. The legs were strongly flexed across the abdomen and chest and crossed upon themselves, the feet being locked behind the back of the neck, both feet were clubbed varus. A post-mortem was consented to by the father (the mother was not consulted), and I managed to get the entire spinal column. What I and every other physician who has seen the specimen regard as remarkable is the absence of the spinous process in *every vertebra in the column!* It is incomplete from axis to coccyx. A few of the cervical vertabræ have a rudimentary covering for the cord, as also the first two sacral vertebræ, in all the others there is nothing, the canal lying wide open. There was nothing like hydrocephalus. I am unable to find a case anywhere recorded where the deficiency will amount to anything in comparison with this case. I believe that four or five vertebræ are as many as are usually incomplete in such cases.

I have heretofore neglected to report this case and if it is worth anything to your readers they are welcome to it. Very Respectfully,

JNO. I. SKELLY, M.D.

Potomac, Ill., June 2, 1882.

Selections.

MEDICINE.

RECENT RESEARCHES ON BACTERIA.—*II. Koch's Investigations on Tuberculosis.*—Experiments which have been carried on during the last few years have demonstrated beyond a doubt that tuberculosis belongs to the group of infective diseases, although various questions have arisen as to the origin of a similar disease from inoculation with non-tubercular matter. Many of these difficulties have been cleared up, and a great advance has been made in the pathology of this subject, by the beautiful experiments recently published by Dr. Koch. Starting from the point of view that the infective nature of the disease has been demonstrated, and with the knowledge that all the infective diseases at present thoroughly investigated have as their cause some form of micro-organism, Dr. Koch has studied tuberculosis in man and in animals, both spontaneously occurring and artificially produced, according to the methods described in our last article.

The first point was to ascertain whether any micro-organisms were present in the body of men and animals which had died of tuberculosis, and whether, if present, they were always of the same kind, and had definite characteristics distinguishing them from other forms. For a long time, these attempts failed; but, by a special method of preparation, the difficulties were at length overcome, and a bacillus was found, of definite form, and with certain very characteristic peculiarities. One cubic centimetre of a concentrated alcoholic solution of methylen blue is mixed with 200 cubic centimetres of distilled water; to this is added two cubic centimetres of a ten per cent. solution of caustic potash, the fluid being well shaken. The material to be stained is kept in this solution for from twenty to twenty-four hours, or, if at the temperature of 40° Cent. (104° F.), for a half to one hour. The cover-glasses on which broken down portions of tubercle have been dried, are then placed for two minutes in a filtered concentrated watery solution of vesuvin. As a result, the methylen blue is displaced by the vesuvin from everything but the tubercle-bacilli; so that, after washing in distilled water, the bacilli stand out as blue rods on a brown ground. Sections are treated similarly; after having lain for twenty-four hours in the methylen blue, they are transferred to the filtered concentrated watery solution of vesuvin for fifteen to twenty minutes, then they are placed in distilled water till no more of the stain comes out, and afterwards in alcohol, oil of cloves, and Canada balsam. Here, also, the nuclei are stained brown, while the tubercle bacilli appear as delicate blue rods. All the other forms of bacteria which Dr. Koch has as yet examined in this way are stained brown, with the exception of the bacilli found in leprosy, which also retain the methylen blue in preference to the vesuvin. These bacilli may also be stained by other aniline dyes if the solution be made alkaline by the addition of caustic potash or soda, The bacilli found in this way are delicate rods from a quarter to a half the diameter of a blood-corpuscle in length. They are present in large numbers in all places where the tubercles are of recent formation and spreading rapidly, more especially at the border of the cheesy masses. They possess a special relation to the giant-cells, being found in their interior sometimes to the number of twenty in each cell. In old tubercles, there are fewer bacilli, though they are seldom altogether absent, unless where the tuberculous process has come entirely to a standstill.

It might be objected that these appearances have, in some way or other, resulted from the staining process employed; but Koch states that the bacilli may be seen without being stained at all. For this purpose, a portion of tubercle containing these bacilli may be examined in blood-serum or distilled water in a hollow slide, when the bacilli will be found as delicate rods which do not possess any power of movement. In some of the rods seen in sections, spore-formation may be observed, the spores being of oval form. Dr. Koch has examined the following cases in man: eleven cases of miliary tuberculosis, twelve cases of cheesy bronchopneumonia, one case of a tubercle in the brain as large as a hazelnut, and two cases of intestinal tuberculosis; in all of these, bacilli were present. Three cases of freshly extirpated scrofulous glands were examined, in two of which bacilli were found enclosed in giant-cells; and in two out of four cases of synovial degeneration of joints they were present in small numbers in giant-cells. Among the lower animals, ten cases of *perlsucht* were investigated, also three cases of so-called bronchiectasis in cattle, a cheesy gland in a pig, a tubercular hen, three monkeys which died of spontaneous tuberculosis, nine guinea-pigs and seven rabbits which had spontaneous tuberculosis, and 172 guinea-pigs, 32 rabbits and 5 cats which had been infected with the disease; in all of these, the tubercle-bacilli were found. The constant presence of a distinct form of organism in a distinct pathological process was thus demonstrated, but it did not, therefore, follow that this organism was the cause of the pathological process.

An important point now arose, viz., whether the disease which followed the inoculation of material containing living bacilli was produced by that inoculation, or was due to accidental causes. The following points indicate that it did not arise spontaneously. In spontaneous tuberculosis, such a plentiful crop of tubercles never developes in so short a time as in those cases where inoculation was performed; secondly, control animals which were treated in the same way as the inoculated animals, with the one exception that no material containing these living bacilli was introduced into them, did not become tuberculous;' further, in spontaneous tuberculosis, the bronchial glands become enlarged and cheesy, and then the lung is affected. In these cases, where inoculation was performed generally on the abdomen, the nearest lymphatic glands, viz., the inguinal, and at times the axillary, became first enlarged, and the spleen and liver were specially affected.

That the material which produced this infection must contain living bacilli for a successful result —that, in other words, the bacilli stood in relation to the result of the inoculation as cause to effect —was rendered probable by the following fact. In all cases where the material used for inoculation contained living bacilli or spores, the result was positive in animals liable to infection; while, where the material inoculated did not contain these bacilli or their spores, a negative result was obtained, the animal remaining healthy. Thus, in several cases, experiments were performed with the contents of a scrofulous gland, and with degenerated synovial membrane, neither material containing bacilli; and also with the tubercular lungs of a monkey, some parts of which had been dried for two months, and some kept one month in alcohol, and in no instance did tuberculosis follow.

In order to prove that the bacilli were the real and real and only cause of the infection, it was necessary, however, to separate them from the tuberculous material, and introduce them alone into the animal. This was done in the manner indicated in our last article, by growing them on a solid substratum. It was found that these bacilli required a temperature approaching that of the human body for their growth. Now, at that temperature, the gelatine cultivating preparations became fluid, and thus the advantages of solidity were lost, while it was also found that these bacilli grew in fluids only with the greatest difficulty. The material which Koch has found best for the present purpose is blood-serum which has been rendered solid by heat, but which has not been exposed to so high a temperature as to become opaque. If blood-serum be exposed for an hour daily to a temperature of 58° Cent. (136.4° Fahr.) for several days in succession, it is generally thoroughly sterilised; then, by keeping it for some hours at 65° Cent. (149° Fahr.), it becomes solid without losing its transparency. Portions of tubercles removed from the body, with various precautions to prevent the access of extraneous organisms, are placed on the surface of this material, and the vessel kept in an incubator at a temperature of 40° Cent. (104° Fahr). The following phenomena occurred, whether the tuberculous material was taken from animals which had been killed after infection with tubercle, from animals which had died of spontaneous tuberculosis, or from human beings which had died of tuberculosis. For a week, there was no marked alteration; if marked development occurred within that time, it was always due to extraneous bacteria, and the experiment had failed. About the tenth day, small points and scales became evident, which slowly spread, and were seen to consist of tubercle-bacilli. After about fourteen days, these bacilli were transferred to fresh blood serum. In doing this, the scales were broken up as much as possible, and a minute portion transferred to a new flask. When this transference had taken place several times, the original material was entirely got rid of, and only the bacilli developed from it remained. Now, inoculation of these bacilli, isolated in this way from all the other original material, produced tuberculosis with the same certainty as did the inoculation of tuberculous material containing living bacilli. The substance inoculated was generally introduced beneath the skin of the abdomen, or into the anterior chamber of the eye; and the bacilli had been cultivated in four to ten or more different flasks. Without enumerating the experiments, we may give the first as an example. Of six newly bought guinea-pigs, four were inoculated under the skin of the abdomen with bacilli which had been obtained from the lung of a human being who had died of miliary tuberculosis; these bacilli had been grown for fifty-four days, during which time five successive cultivations had been carried out. Two of the guinea-pigs were not inoculated. One of the inoculated animals died on the thirty-second day, and all the rest were killed on the thirty-fifth day. All those which had been inoculated showed extensive tuberculosis in the various organs, while those which had not been inoculated remained healthy. A number of experiments carried out in this way, and several in which the bacilli were injected into the abdominal cavity, yielded results absolutely identical with those which followed the introduction of tuberculous material containing living tubercle bacilli.

Similar results followed the introduction of bacilli into the anterior chamber of the eye. Thus, to mention one experiment, four rabbits were taken; into the eye of the first, pure blood-serum was injected; into the second was introduced the point of a syringe filled with blood-serum containing bacilli obtained from tuberculosis in a monkey, and cultivated for 132 days; but the piston was not moved, and thus no injection was made (this was an inoculation properly so-called), while this serum with bacilli was injected into the eyes of the third and fourth rabbits. All the animals were killed on the thirtieth day. The first rabbit was healthy; the third and fourth had iritis, panophthalmitis, emaciation, and numerous tubercles in the lungs; the second had typical tuberculosis of the iris, the lymphatic glands under the jaw and near the root of the ear were swollen and infiltrated with whitish yellow nodules, but the lungs and other organs were still free from tuberculosis. This experiment shows that the rapidity of development of the morbid process depends on the number of bacilli inoculated, as was also demonstrated by the fact that the development of tubercles was more rapid and more extensive when the material was introduced directly into the abdominal cavity or into the veins. Also in the second rabbit, there was nothing introduced except a few bacilli or their spores adhering to the end of the syringe; the microscopic portion of material which produced the infection could not possibly contain any of the original tuberculous matter, seeing that the bacilli had been passed through at least ten different flasks. We have already stated that the tubercles produced in this way were similar to those arising spontaneously; and, on microscopical examination, the appearances as to character of cells, presence of bacilli, etc., were absolutely identical.

These investigations seem very definite, and only require careful confirmation to enable us to accept the matter as proven. That the facts are accurate and have been observed with scrupulous care, all who are acquainted with Dr. Koch and his work will admit; and Koch does not seem to be going beyond a legitimate conclusion when he writes that it must be looked on as a great advance of knowledge "that, for the first time, the parasitic nature of a human infective disease, and, indeed, of the most important of all diseases, has been completely demonstrated." As yet, the only disease in which so much and such convincing proof has been furnished is anthrax; though the presence of micro-organisms, which seem to stand to the morbid process in the relation of cause and effect, has been shown in a number of other affections. The questions which arise as to the relation of these organisms to the complex processes grouped together as phthisis, the views as to heredity, infection, etc., are too numerous to enter upon in the present article.—*British Medical Journal.*

RUMPF ON THE TREATMENT OF LOCOMOTOR ATAXIA WITH THE ELECTRIC BRUSH.—(*Neurolog. Centralblatt*, 1882, Nos. 1 and 2.)—The results obtained by the author are so striking that we should have felt incredulous had not they been related with full details by so competent an authority as Dr. Rumpf.

The first case was that of a man who, ten years before, had been attacked with the characteristic shooting pains. The usual symptoms manifested themselves in the course of time: extreme ataxia, anæsthesia and analgia, abolition of reflexes, sense of fatigue, bladder disturbance, sleeplessness, etc. The electric brush was used along the back and legs, and very soon this brought about a considerable amelioration of the subjective symptoms, and the treatment persevered in for two months, when the patient declared himself prepared to resume his work. One year after this, Dr. Rumpf had the opportunity of showing him to the members of the Medical Society of Düsseldorf. The only symptom then present was the absence of the knee-jerk.

Dr. Rumpf stated that he had tried the brush in a series of cases successfully, though the results require time before they can be pronounced permanent. He described one, however, in which the patient had been in good condition for two years after a six weeks' course of treatment. He had had lightning pains, paræsthesiæ and ataxia, impotence and disturbed micturition. The knee-jerk was not abolished. All the symptoms disappeared except the sexual weakness.—*Brain.*

N. BUBNOFF AND R. HEIDENHAIN ON PHENOMENA OF EXCITATION AND INHIBITION IN THE CEREBRAL MOTOR CENTRES. (*Pflüger's Archiv*, vol. xxvi., p. 137).—The above paper contains in the first place observations confirmatory of those of Franck and Pitres on the reaction-time of the cerebral grey matter to electrical stimuli (Trav. du Lab. de M. Marey, 1878–1879, p. 413); it further gives an account of the experimental determination of certain excitatory and inhibitory cerebral effects as indicated by simple spasm, storm of spasms or continuous contraction, or by the arrest of these states.

Franck and Pitres found that the reaction-time is considerably longer when excitation is applied to the gray substance, than when it is applied to the subcortical white substance (*e.g.* 0·065 sec. in the former case case, 0·045 sec. in the latter). Bubnoff and Heidenhain confirm this fact. They find that the muscle-curve obtained by cortical excitation has a longer latency and a greater duration than that obtained by medullary excitation (*e.g.*, the latency in the former case being 0·08 sec., in the latter 0·035 sec.); they observe further that the length of the interval varies inversely with the strength of excitation. All these observations go to show that time is occupied by the excitatory process in the cortex, and contradict the opinion that the grey matter is physologically indifferent. The authors, however, observed that in the stage of increased excitability as an effect of morphinisation, the reaction-time of cortical stimulation may be as low as 0.02 to 0.025 sec.; the total delay of mere nerve transmission and muscle latency would amount to this, leaving a by no means evident cortical delay. They also observed great prolongation of the cortical reaction-time in deep morphinisation, a prolongation which was at once greatly diminished by substituting subcortical for cortical excitation.

With regard to the experimental determination of action and resolution of action, several significant observations are related.

Munk observed that epileptic convulsions brought about by excitation of a limited cortical area can be abolished by removal of that part of the cortex, unless the convulsions have lasted for some time, in which case extirpation fails to effect quiescence. Bubnoff and Heidenhain observe further that sometimes in the early period of an epileptic attack, extirpation of the cortical centre of a limb may effect quiescence of that limb while the rest of the body remains in strong convulsion; they suppose that the excitatory state has now extended to the whole cortex, but has not yet established itself in subcortical matter. In other cases, after rapid destruction of the motor area on one side, they observed cessation of convulsion not only on the opposite side but on both sides, it being indifferent whether the area removed were the same as, or the opposite to, that by which the outbreak was originally excited;—they suppose that each motor area not only governs the opposite muscles, but that each area also influences the opposite area, and that failing this excitatory factor the excitation soon becomes insufficient to convulse. In other cases they observed that unilateral ablation had no effect on the convulsions; they suppose that the excitatory state had then extended to subcortical motor apparatus. The authors remark also that epilepsy by excitation of the cortex on one side, always commences by muscles on the opposite side; that epilepsy by excitation of subcortical matter (the cortex of that side having been removed) always commences on the same side, and that after bilateral ablation of the cortex, subcortical excitation is never succeeded by an epileptic attack. Admitting the facts, the deductions from them are obvious—experimental epilepsy is a manifestation of cortical activity, which crosses to the opposite side of the brain by commissural fibres.

Turning to other sides of the question, the authors show how centripetal impressions can influence central excitability, *e.g.*, on the one hand, that the muscle-curve of cortical excitation may be retarded and prolonged by simultaneous excitation of the sciatic; on the other, that submaximal cortical stimulation may be rendered efficient by gentle tactile excitation on the same side. The results depend greatly upon the depth of morphinisation, and it must be added that the latter phenomenon occurs also after removal of the cortex; the enhanced excitability is therefore certainly of subcortical parts, and only *possibly* of cortical substance.

Other phenomena are recorded of a precisely opposite character, viz., the resolution of tonic contraction by gentle tactile excitation, by sudden sounds or blows, or by weak excitation of the sciatic; but here again the part played by cortical matter is not clearly defined, since the phemomena were exceptionally observed in its absence, and could then only depend on subcortical processes.

The authors also observed arrest of action by weak central excitation, increase of action by stronger central excitation applied to the same cortical parts as those from which the observed action proceeded as well as to remote parts.

For the discussion of imaginable representations of the dynamic changes effecting action and resolution of action, the reader is referred to the original paper, in which they are considered at length.—*Brain.*

SOME PRACTICAL POINTS IN THE TREATMENT OF HÆMOPTYSIS.—In bringing forward, in a very brief manner, som practical points in relation to this question, I will, for the convenience of the first part of my object, divide cases of hæmoptysis into three kinds: first, the slight; second, the copious; and third, what may be termed the explosive.

In the *slight* form, the basis of the sputum is composed of mucus which is stained more or less deeply with blood, the bleeding vessel being of small size. The most successful remedy for this form is ergot.

In the second or *copious* variety, the expectoration consists of pure blood, the quantity of which may vary up to a very large amount; and the bleeding ceases gradually until the attack is over. Here again the most successful remedy is ergot, and indeed it is in this kind of hæmoptysis that ergot is especially efficacious. In order to prove efficient in hæmoptysis, however, ergot must be given boldly. One teaspoonful of the liquid extract is a suitable dose, and it may be ordered every half-hour, hour, or two hours, according to the urgency of the case. If it is doing good, it is a mistake to leave it off before the sputa are bloodless, although the intervals between the doses will be lengthened as the hæmorrhage abates. In a few of these cases, ergot will fail; not in many, but now and then. If seven or eight doses be ineffectual, it is best to abandon it. The next remedy worthy of confidence is gallic acid, which it is necessary to give freely, in doses of fifteen to twenty grains, at intervals the same as in the case of ergot. Should there be tedious delay in the final clearing up of small traces of blood from the sputa, an acid mixture with quinine is usually effectual; or, if very obstinate, ipecacuanha, in twenty-minim doses of the wine pushed to slight nausea, will generally remove them.

In the third or *explosive* variety of hæmoptysis, the attacks are profuse, sudden in their onset, all at once ceasing, often for many hours, then abruptly bursting out again. There is no gradual subsidence. The lesion is probably a rupture of some aneurysmal sac in the wall of a cavity. Now it is in these cases that ergot is hardly ever of much use. In my experience, the best remedy is turpentine internally, with cold applications over the chest. Three half-drachm doses of oil of turpentine may be given, half an hour apart; or, if care be taken to follow it with castor-oil, even more than three. When the turpentine is left off, it is well to follow up closely with a mixture of gallic and aromatic sulphuric acids, sulphate of magnesia, and quinine. It is particularly in this type of case that digitalis is often useful for calming vascular excitement. As the patients often make blood very rapidly, the free use of aperiments ought to be enjoined.

Nothing would be easier than to quote a long string of remedies for hæmoptysis, but my present object is to leave prominently on the mind one or two that are to be relied upon, and to indicate their spheres of usefulness. Nor is it necessary to dwell on certain instructions which apply to all forms of blood-spitting. Constipation must go unrelieved, and is best treated by salines. A quick pulse must be steadied by digitalis, of which perhaps the most handy form if the digitaline granule of Homolle and Quevenne. Cough is to be soothed; the simpler the mode of accomplishing this the better, but it must be done; and nothing answers better for this than a chloroform pad laid over the sternum.

Speaking in a general way, and not alluding to hæmoptysis of cardiac origin, I hold that we should keep before our minds the advisability of stopping all blood-spitting in phthisis without delay. To this rule, perhaps, there are two exceptions. The first is trivial. It is that dirty-red, slimy, bad smelling, never abundant expectoration which hysterical women with phthisis often exhibit at the bottoms of their spittoons; this may be left to itself. The other exception is a serious one; it comprises those forms of hæmoptysis, usually copious and angry, occurring in advanced and very chronic cases where there is a considerable amount of fibroid induration. In such patients, notable dyspnœa on exertion has for a long time past been a prominent symptom, and respiration has been maintained by a very small extent of lung-substance. These cases are open to a special danger—that of fatal embolism in the right chambers of the heart or the pulmonary artery. Not uncommonly, the course followed is for the bleeding gradually to abate in quantity, remaining, nevertheless, of the same angry red; then urgent dyspnœa suddenly sets in, and death takes place within forty-eight hours. These are cases calling for extremely careful treatment. Can it be right, where only a small surface is available for respiratory function, to contract those few vessels with ergot? Or can it be good practice to pass styptic medicines into a patient's circulation when his cachectic state, his low vitality, and perhaps some febrile movement, render him especially liable to the formation of thrombi? It is wisest to limit ourselves to external applications, chloroform-pads, dry cupping, sinapisms at a distance or other derivative treatment, with appropriate general management.

Perhaps I may be allowed to conclude with two cautions, commonplace they may seem, but both of them the outcome of bedside experience. One is, to have some responsible person in attendance night and day, on all cases of severe bleeding, till the attack has completely passed away. Death in hæmoptysis is generally sudden, and it is very appalling to discover too late the consequences of omitting this precaution. The other is, to decline positively to examine a patient's chest while there is any hæmoptysis. Irrespectively of the danger of the process, an opinion arrived at by auscultating a chest during or immediately after a bleeding is not a reliable one. —Jas. M. Williamson, M. D., *British Medical Journal.*

SCHULZ AND SCHULTZE ON ACUTE ASCENDING PARALYSIS.—In Landry's paralysis, or as it is better termed acute ascending paralysis, the electrical excitability of the paralysed nerves and muscles is normal. There are cases, though, which present the general character of acute ascending paralysis but differ from it in exhibiting a rapid diminution of the electrical excitability. In this respect they resemble Duchenne's paralysis (poliomyelitis anterior subacuta); but they are distinguished from it again by the peculiar upward march of the paralysis, and by the fact that disturbances of respiration and bulbar symptoms are regularly present.

An example of this intermediate type is recorded by Schulz and Schultze (see *Archiv f. Psycn.*, Bd. xii., p. 457), as occurring in a man with a syphilitic history. After a lengthened prodromal stage the disease rapidly developed, and terminated fatally in four weeks. Diminution of electrical excitability and the reaction of degeneration were only observed towards the end of the illness. There were also slight paræsthesiæ and transitory vesical weakness.

The post-mortem showed acute myelitis of the anterior cornua of the lateral columns (especially of the pyramidal tracts), and in some places, and to a less extent, of the anterior columns. The morbid appearances were found through the entire length of the spinal cord, and in the lower part of the medulla oblongata. Though the evidences of disease were most marked in the localities named, the whole cord showed signs of a degree of inflammation.

It will be seen that this case presents a further point of difference from the typical acute ascending paralysis in possessing such marked pathological features, for in the typical Landry's paralysis the pathological appearances are *nil.* The authors suggest that the acute ascending paralysis may perhaps represent the lightest form of a general spinal and bulbar inflammation, in which the lateral columns and the medulla are specially affected. In some cases the inflammation might be so slight that it would be very difficult of detection even by the best observers; in other cases there would be more decided evidences of inflammation. For example, in Eisenloh's case of acute ascending paralysis, there were minute hæmorrhagic extravasations and small collections of white blood corpuscles and leucocytes in the medulla, and to a less extent in the cord. The authors mention a case that came under their own observation, in which, shortly before death, the facial nerve became paralyzed, and its electrical excitability diminishes; and in which the autopsy revealed meningitis and acute myelitis with swelling of the axis-cylinders through the whole length of the spinal cord, particularly in the lateral columns of the cervical and dorsal divisions of the cord. We may mention here another case of the authors' which shows by what gradations we may pass from Landry's to Duchenne's paralysis. Clinically the symptoms were those of Duchenne's paralysis, except that there were symptoms of disordered respiration, and the extent of the paralysis did not declare itself in the first few days. Pathologically there was a very intense poliomyelitis anterior, and a slight affection of the lateral columns, characterized by swelling of the axis-cylinders—the very opposite of the conditions found in the first-mentioned case, where the myelitis of the lateral columns was the prominent lesion, the poliomyelitis the less important lesion.

The authors observe that it will aid us in the diagnosis of these cases if we recollect what the first mentioned case proves, that we may have an acute poliomyelitis with myelitis of the lateral columns without spastic symptoms.—*Brain.*

NARCOTISM IN INFANCY.—The chapter of forensic medicine which deals with the crime of infanticide, exhibits a knowledge of the results obtained by the administration of lethal doses of narcotics to infants, and the post-mortem results induced upon the infant body, when the narcotic having been administered for a longer or shorter time, has proved fatal.

Many instances occur short of criminal intent, where infants are subjected to a longer or shorter course of narcotics, and these illustrate the effects of the drug on the infant during life.

It may be well, therefore, to advert to some of the clinical evidences which present themselves upon the administration of narcotics to the infant.

It will not be necessary here to consider the reasons for the administration of the narcotic, for the cases these remarks are intended to elucidate are such as occur not infrequently in the nurseries of both the wealthy and the poor, wherein it is to be supposed that either the relatives, or friends, or the nurse with good intention or in ignorance, believe it necessary that the infant shall be soothed, and that to this end a narcotic is given in small but repeated doses.

Under these circumstances, given a healthy child to start with, certain results will follow with an equally certain regularity:

1. In the early administration of a narcotic, more or less diversified according to the temperament of the infant, a modified degree of excitement will supervene, to be followed by sleep; and this favorable condition of things may recur for a period varying from a few days to a week or two. If, however, the repetition of the narcotic be at all freqnent, or if it be exhibited in any but a very small amount, this period of favorable narcosis will be proportionately diminished, and the chances of its lethal effect increased.

2. In some infants the effect of the narcotic will be to speedily constipate, for as in the adult so in the infant, a narcotic lessens at once the secretions and movements of the stomach and intestines, and consequently digestion becomes arrested.

There is, however, a class of cases met with in infancy, wherein infants, the subject of imperfect digestion associated with colic, become for a time benefitted by a moderate amount of narcotic. Here the sedative acts by checking peristalsis, and so enables the food to remain a longer time in contact with the digestive juices, and thus to become more perfectly digested. This condition, however, is more frequent in early childhood than in infancy.

A third and more freqnent sign of a narcotic in the infant is the occurrence, sometimes the concurrence of diarrhœa and vomiting. When these occur, a longer time will elapse, than when such conditions are absent, before profound narcosis ensues.

3. In addition to the above, diaphoresis and diuresis may occur, one or both. Either of these may and often will be present in an inverse proportion to the other. The predominance of either will be dependent upon the amount of fluid ingesta, the character of the fluids taken, and the condition of the temperature of the weather present at the time. Obviously warm weather or an over-heated atmosphere will promote diaphoresis, while cold weather would augment diuresis.

4. The intestinal evacuations soon alter in character, becoming paler and more solid in consistency, diminished in their frequency, and increasingly more and more deficient in bile; accompanied by a change in color from yellowish-green to verdant green, with or without mucus, and if very constipated, accompanied by streaks of blood, owing to the tenesmus which is associated with the expulsion of the hardened, ill-digested fæces.

5. Another vital symptom, though of later occurrence than the preceding, is marked depression of the vital powers, evidenced by sinking of the anterior fontanelle. This is accompanied by other signs of want of vitality, viz. feebleness of pulse, loss of weight, an earthy complexion, wasting, especially marked in the pinched and anxious expression of the face. By this time the infant alternates between efforts at peevish whimpering, and imperfect somnolency.

The pupils will be found in the earlier stages of narcotism in infancy to be frequently contracted, but when the stage of fontanelle depression is reached they may contract or dilate, and one pupil may be larger than the other This condition I believe to be dependent upon variations in the amount of fluid present in the ventricles of the brain.

So soon as this stage is reached, any subsequent dose of a narcotic may prove speedily lethal, and the greatest care and caution become necessary to avert an untoward result. It is at this point that I believe the cumulative effect and action of the narcotic assumes a point of much peril to the infant. One of two results may now supervene: either clonic convulsions may set in, though these are not very frequent; or, and much more commonly, profound and perhaps fatal coma.

When those who undertake the charge of an infant are willing to incur the responsibility of administering narcotics without professional advice, it would appear that not infrequently they are desirious to do other things for the infant which err on the side of excess or deficiency, according to the temperament of the infant's guardian. This apparent digression is important, because these collateral contingencies more or less modify the action of narcotics in infancy.

The following I have myself witnessed:

(*a*) Irregularity in the administration of food. Food is either given too seldom for fear of distressing the infant; or else, in too large a quantity, or of injurious quality, under the idea of the infant organism being the better sustained thereby.

(*b*) Food is often given at an excessive temperature, a belief existing that such warmth is comforting to the infant. It is as little known as thought of by the ignorant that such overheated meals induce, maintain, and augment the frequent vomiting, which then becomes associated with catarrh or congestion of the stomach. Such meals I have verified by the thermometer as exceeding 105° F. in temperature.

(*c*) A disregard of the hygiene of the room occupied by the infant.

In cases where diarrhœa and vomiting persist. it will not seldom be found that the nurse has kept the soiled diapers in the room for several hours; such ignorance or carelessness will, so long as it exists, maintain the very evils which would have been mitigated by their removal.

(*d*) Without assuming intentional neglect, another possible contingency and source of danger to the infant may occur. The nurse may indulge in the same narcotic, which she believes to be so beneficial to the infant under her charge; narcosis may overcome the nurse at the very time when all her faculties and energies may be required to avert a lethal narcosis overpowering the infant.

The general therapeutic action of narcotics and the treatment of narcotism in infancy cover too large an area to enable them to be considered in this communication, the aim of which is to draw attention to some of the clinical evidences which demonstrate the administration to infants of sedatives, continuously in moderate doses, until even narcotism is reached. These evidences are often the only guidance upon which a medical man can rely; the only information, sometimes, by which he will be enabled to detect the danger which is present, so as to warn the relatives and friends in time to avert fatal issues.

The co-existence of the evidences already enumerated crucially indicate that narcotics are being administered to an infant; this fact established in reference to any given case, it becomes imperative to place the infant at once, under the charge of a responsible guardian at any cost.—H. Cripps Lawrence, L. R. C. P., in the *Practitioner*.

Condition of the Stomach in Nephritis.—Dr. Hlava. The author states that frequently during the course of an acute or chronic nephritis (with or without uræmic complications), there occurs a true gastritis interstitialis, which results in atrophy. He bases his assertions upon seven cases which he examined, both clinically and anatomically, in a most thorough and careful manner. A critical examination of the stomach offered the following histological changes, varying in intensity and extent: The submucosa was attenuated. Between the glands and the muscle of Bruecke there were found at intervals accumulations of round cells, which could also be traced into the interglandular septa. The glands themselves were affected to some extent. It was not possible to prove whether the gastritis had been caused by the uræmia or by any other complications of nephritis. Hence it still remains to be demonstrated whether or not the same irritant excites an inflammation in both kidneys and stomach. In cases in which no dyspeptic symptoms manifested themselves during the progress of the nephritis no changes whatever were discovered post-mortem. The author infers from this that the dyspepsia occurring during nephritis is due to anatomical alterations in the gastric mucous membrane.—*Deutsche Med. Zeitung.*

G.A.F.

The Effect of Certain Drugs upon the Irritability of the Cerebrum and Contributions to the Therapy of Epilepsy. — P. Albertoni.—To determine the alterations in the irritability of the cerebrum, while under the influence of bromide of potassium, atropin and cinchonidia, the author proceeded in the following manner:

His experiments were made upon dogs and monkeys. After exposing the psychomotoric zone, he determined the minimum strength of an electric current, which sufficed to produce various contractions and to cause an epileptic attack. Then, as soon as it became manifest, that the drug administered was exercising its influence, the irritability of the brain was again tested and from the difference of the intensity of the currents required in both instances, the power of the medicine to influence the irritability of the cerebrum was determined. If, however, it was desired to test the effect of a drug when administered in repeated doses, he first determined the strength of the current which would produce contractions and convulsions when applied to one hemisphere. The wound was then closed and allowed to heal. The drug was administered for a certain period, the other hemisphere exposed and the tests repeated upon this side, so that it could be determined from the result whether the irritability of the cerebrum was increased, diminished or remained unaltered.

It was shown in this manner that bromide of potassium in one large dose, or in repeated doses, diminishes the electric irritability of the cerebrum, and that at the same time it destroys the possibility of producing an epileptic attack by irritating the cerebrum by electricity. It is indicated, therapeutically, when the epilepsy depends upon a state of tension of the nerve-centres.

Atropin, in medium doses, increases the irritability of the cerebrum, while very large and toxic doses are followed by paralysis. The dissimilar action of atropin in different animals is explained by the difference in degree of irritability of the cerebrum. Thus, in dogs, even small doses of atropin cause a disturbance of intellect, while larger doses administered to sheep only diminishes their vivacity, and very large doses to birds do not produce any intellectual disturbances whatever. We are also aware of the fact that the cerebral effect of atropin in younger animals is very slight, but increases in proportion to the age. This explains the observation that tincture of belladonna is well borne by children from fifteen months to five years of age when administered in doses which would produce certain toxic symptoms in the adult. The possibility of calling forth an epileptic seizure by means of electric irritation is not altered by the use of atropin. The author is of the opinion that all cases of epilepsy, which depend upon an explosion of nerve force originating in the cerebrum, or upon a primary tension of nerve centres, cannot be alleviated by atropin. Yet this remedy, when administered so as to produce its full physiological effect, may prove effectual in cases of epilepsy, caused by fright or other severe psychic influences; furthermore, in cases depending upon congestion or stagnation of blood current, by causing a contraction of the blood vessels; also in epilepsy of peripheral origin due to a traumatic lesion of the sensory nerves, by diminishing the reflex irritability of the peripheral sensory and motor nervous distribution.

Observations in regard to cinchonidia in animals and epileptics resulted in the following: Cinchonidia has the power, to a great degree, to excite the motor nervous elements, and hence to cause convulsions. In dogs the convulsions following the administration of cinchonidia do not occur if the animal has been previously brought under the influence of bromide of potassium. Cinchonidia, when administered in therapeutic doses, increases in epileptics the number of attacks, and is hence contraindicated in this disease.—*Deutsche Med. Zeitung.* G.A.F.

Treatment of Ascarides Lumbricoides.—M. Guermonprez publishes in the *Bulletin de Thérapeutique* an article of considerable length on this subject, being a historical study of intestinal worms, and of the action of santonine. His conclusions are opposed to the employment of this remedy. Worm-seed (whose action is frequently confounded with that of santonine) is, says he, and has long been my favorite medicament for killing and expelling the ascaris lumbricoides; santonine, on the contrary, does not destroy the worm; it is to the parasite an excitant, which increases and precipitates its movements, and renders the organism more liable, on the one hand, to the reflex disturbances, and to intestinal obstructions on the other hand. Santonine, then, is never indicated in such cases. While the remedy would be free from harmful effect in case the parasites were young and in moderate number, it could not be used without danger, even in rational doses, if the living parasites are large and mature; or again, if they are numerous. Moreover, the purgatives appear to be the only remedies arriving at the desired result. These should however be assisted by opposing the development of the worms with careful and good hygienic care. In this regard Guersant has given us the indications which he has long observed and which cannot be too highly appreciated. He does not hesitate to avow the importance of a removal of all predisposing causes; but this must be accompanied by the employment of animal diet and the systematic administration of those tonics and stimulants which have been found most prophylactic against the affection; a change of diet alone not infrequently is sufficient to cause an expulsion of the worms. M. Guermonprez recommends a method which answers the indication, not of "killing the worms," but rather of rendering the digestive tract uninhabitable by them. This consists in giving, to a child from five to eight years old, three large doses of a bitters-preparation (preferably syrup of cinchona, syrup of gentian, or syrup of bitter orange peel), and then, when the mucous membrane of the intestinal canal is fully under the influence of this, simply administer a purgative (calomel or castor oil). He now comes to the treatment to be directed against any eggs that may remain in the stercoraceous matter. This signifies a repetition of the entire course of treatment; and this second course results in complete cure.—*Journal de Medecine et de Chirurg*, April, 1882. J.M.F.

AMYLOID DEGENERATION OF THE KIDNEYS UNACCOMPANIED BY ALBUMINURIA.—The author (J. Strauss) relates a case of empyema combined with pulmonary tuberculosis, in which no albumen was detected in the urine, although amyloid degeneration of the kidneys was proven to exist. The patient remained under observation for five months. The post-mortem report, as regards the kidneys, was as follows: Kidneys normal in size, capsule easily removed, surface of a pale red color with marked venous congestion. Cortical substance normal in thickness. Pyramids somewhat hyperæmic. Testing with iodine characteristic colored lines may be traced at the base of the pyramids. Upon making a microscopical examination it was discovered that in almost every glomerulus in the cortical substance one or more of the vascular loops had undergone amyloid degeneration. Like alterations could be detected in a portion of the arteriolæ interlobulares and the art. afferentes. The remainder (interlobular capillaries, membrana propria of the tubules, capsule of the glomeruli, and the epithelial cells themselves) were entirely intact. Interstitial and parenchymatous inflammatory changes could not be discovered. The author refers to three cases of amyloid degeneration of the kidney without albuminuria reported by Litten. In these cases the same condition of affairs was present. He comes to the conclusion that the absence of albuminuria probably depends upon the want of any inflammatory alterations in the parenchyma of the kidneys, as well as to the peculiar localization of the amyloid deposits, which choose by preference the vasa-recta of the medullary substance, and to a great extent leave intact the capillary loops in the glomeruli. In the majority of cases the spleen and liver were the organs first attacked. — (*L'Union Med.*) — *Deutsche Med. Zeitung*. G.A.F.

HALLUCINATIONS IN PROGRESSIVE PARESIS.—Dr. W. Julius Mickle (*Journal of Mental Science*, October, 1881, January and April, 1882) discusses the subject of hallucinations in progressive paretics as related to the localization of cerebral functions. Of one hundred cases of progressive paresis Mickle found fifty-five to have hallucinations of the special senses. He is inclined to believe that senorial disturbances play a more important part in progressive paresis that is generally believed. Hallucinations of the sense of smell seem to be relatively common. Dr. Mickle does not seem to take into account the extreme receptivity found among paretics of the delusions or hallucinations of others, and in certain instances not recorded, paretics have been known to imbibe hallucinations from chronic delusional lunatics. Of the cases reported thus far about one half have too extensive lesions for the purpose of localization of the visual and auditory centres; one third were in favor, and about one third opposed. He comes to the following conclusions respecting hallucinations in progressive paresis. First: That hallucinations and illusions are more frequent and important in progressive paresis than has been generally recognized. That, contrary to what is usually believed, the visual hallucinations occur in progressive paresis with scarcely greater absolute frequency than the auditory, but that in the general paralytic soldier the visual hallucinations bear a considerably higher ratio to the auditory than they do in other insane soldiers. That in the soldiers among chronic insane, auditory hallucinations predominate in frequency. That the hallucinations of progressive paretics are often of short duration, recurrent variable non-systematized numerous, absurd, crude, at times disconnected, contradictory *inter se*, and extremely pleasurable and painful. That lesions of the cortical sensory centres of the cerebrum are connected in an intimate way with the production of most of the hallucinations in progressive paresis. That in dealing with progressive paresis in reference to the doctrine of cerebral localization, use may be made of the distribution of cerebro-meningeal adhesions and the cortical changes associated therewith. That in cases of visual hallucinations in progressive paresis the angular gyrus is not affected in the marked manner one would anticipate, on the theory that it is the sole cortical visual centre; nor in cases of auditory hallucinations is the first temporo-sphenoidal, viewing it as the sole cortical centre. The morbid anatomy of progressive paresis therefore fails to support the exclusive view that these gyri are the sole centres of sight and hearing. The supramarginal convolution is affected more than the angular in those with visual hallucinations, and the adhesions are often well marked on the postero-parietal locule. The second temporo-sphenoidal gyrus seems to suffer more than the first in the cases with auditory hallucinations taken collectively. Girma (*Thèse de Paris*, 1881) finds that hallucinations are very frequent at all stages of progressive paresis, but principally in the period of stupidity. In the early periods they are purely psychic, later on a sensory element enters into their production. They are very fleeting in the expansive types, but more persistent in the depressive types. They may lead to impulsive acts, but as might be expected, are not the point of departure for systemated delusion. Dr. Lautar (*Thèse de Paris*, 1881) calls attention to the fact that grandiose delusions are not characteristic of progressive paresis. This is almost a truism, and Dr. Lautar fails to demarcate between systematized and unsystematized delusions, and the whole article fails to show much clinical power of observation. —*Journal of Mental Science.*

BERNHARDT ON ATHETOSIS. — The author (*Arch. f. Psych.*, Bd. xii., p. 405), reports a case in which there were successively hemiplegia, hemichorea and athetosis. The observation is of special interest, in the first place as showing that hemichorea and other abnormal involuntary movements may develop as post-hemiplegic conditions, and in the second place as confirming Bernhardt's theory, that athetosis is merely a modified chorea

The patient was a woman, aged 20. The nature of her first illness is unknown, but it commenced with swelling of the feet, and an affection of the speech which grew gradually worse; and in the course of a few weeks there was complete right hemiplegia and aphasia. Seven months after the commencement of her illness she was seen by Dr. Bernhardt, who observed that the right leg was dragged in walking; that the right hand and arm and upper arm were in continual, restless, rapid motion (chorea post-hemiplegica), that there was right hemianopsia; and that there was aphasia, the patient being unable to name objects or to select those named, or to repeat the names after any one.

Iodide of potassium was administered in large doses, and within five weeks a marked amelioration took place. The aphasia had greatly improved, and instead of the choreic movements of the whole arm there were only continual, slow, grasping movements of the fingers. In other words, the hemichorea had subsided into athetosis.

Three years afterwards, Bernhardt saw and examined the patient, and found her condition substantially the same. There was still athetosis and right hemianopsia. The patient continued to drag the right leg a little, and the symptoms of aphasia had not altogether disappeared.—*Brain.*

CEREBRAL LESIONS IN SYPHILIS.—Dr. McCall Anderson exhibited before the Glasgow Pathological and Clinical Society a man, aged forty-nine. Twenty-four years ago the patient had syphilis. About fourteen years ago, after an attack of rheumatic fever, the patient had an attack of paralysis on both sides of the body—less severe, however, on the right than on the left. His recovery was speedy, but never complete, slight rigidity remaining on the right side and some numbness on the left. These symptoms were aggravated after a second paralytic seizure about two years ago, and only began to disappear when the patient was put on antisyphilitic treatment. At the commencement of the first attack there was temporary unconsciousness. For the last three years there had also been a marked tendency to sweating on the left side of the face. Dr. Anderson's diagnosis was a lesion of the motor tract of the brain of the left side, and of the sensory tract of the right side, the degeneration descending to the lateral columns of the cord. The only treatment employed was the inunction of mercurial ointment, which rapidly produced such an amelioration of symptoms that the patient left the hospital.—*British Medical Journal.*

SURGERY.

THE CARCINOMATOUS METAMORPHOSIS.—In the winter of 1880-81, while working in Dr. Heitzmann's laboratory in New York, I examined four lymph glands, three of which showed that there are several stages in the formation of cancer.

The first came from a gentleman forty-eight years old, on whose prepuce a few small nodules had grown.

When his surgeon heard that they were cancerous he amputated the penis, but six months afterward, two lymph glands, one the size of a hazel-nut and the other as large as a pea, were found in his right groin. Both were extirpated, and although two years had then elapsed, the patient was still perfectly well.

The second gland came from a male inmate of Charity Hospital, N. Y., aged forty-two. He had a cancer of the throat that bled so freely as to necessitate the ligation of the right carotid. This was followed by excision of the tumor and the removal of an enlarged lymph gland from the posterior maxillary region. The man died a few days after the operation, and at the autopsy small abscesses were found in the lungs and some yellowish nodules in the liver and kidneys, which the microscope showed to be secondary cancer in its earliest stages of development.

A gentleman of over fifty years furnished the third specimen. About a year before he was operated on for cancer of the skin on the left leg, Shortly afterward a number of new tumors arose and the lymphatics of the groin began to swell. These new growths as well as the lymphatics were removed, and parts of them brought to the laboratory. Case 4th. A woman of unknown age was operated on for cancer of the breast in the German Hospital of New York City in 1875. A few of her indurated lymph glands were taken from the axilla, and since then had remained in Dr. H.'s possession.

The last specimen on the study of which this paper is based, I removed, by a partial Lisfranc amputation, from the foot of a lady living in the country, about four miles south of Parksville, Ky. The microscope showed it to be a rapidly growing carcinoma.

The first three specimens showed all the stages of invasion, but the fourth contained nothing but the fully formed cancer tissue.

The transmission of cancer from a primary focus to the adjacent nymph glands is probably done by a transportation of the epithelia of the cancer through the lymph channels to the ganglion. This we know is sometimes done, for in case No. 1 we saw a few epithelia scattered among the lymph corpuscles of the cortical substance, their size and shape easily distinguishing them from all their surroundings.

Of course this will not justify one in denying that the fluid portion of the lymph coming from cancer, the so-called cencer juice, does not transmit the infection. We are sure, however, that cancer epithelia are caried and lodged in the lymphatic glands, but I am equally certain that we cannot yet explain why they or the juice can transform the structure of a normal tissue into that of cancer.

We have a great deal to learn yet before we can understand what gives the power of infection to the elements of cancer and sarcoma.

As I have already intimated, in the first three specimens I could trace the change leading to the formation of cancer tissue. The first stage that we found was in that part of the gland where no natural fibrous trabeculæ separated the healthy from the diseased tissue. This consisted in a gradual melting down or running together of the lymph corpuscles, and thus forming large multi-nuclear proto-plasmic masses, the so-called myeloplaxes. I have never seen these formations in a healthy adenoid tissue; once, however, I did see a few small ones in a hypertrophied tonsil.

There is no doubt in my mind that they spring from the confluence of the lymph corpuscles in all their different stages of development, as well as from the mucous threads that are their matrix.

This is not the first time that such a confluence of protoplasmic bodies has been proved to occur, for some time ago Ziegler sealed two small pieces of glass partly together and put them under the skins of rabbits. Shortly afterward he found that they contained these myeloplaxes, the only possible source of which was the migratory corpuscles.

In the lymph follicle the corpuscles are connected to each other by delicate offshoots of living matter, which pierce the separating layer of liquid, so that we can easily understand that all that is necessary to the formation of a myeloplax is the fusion of their jelly-like inter-trabecular substance.

Within one of these large lumps of protoplasm a number of nuclei fade and are transformed into a uniform recticulum of living matter, and thus a formation originated which resembles the myeloplaxes that are seen wherever bone is about to be made, or wherever it is reduced in the processes of growth and of inflammation.

Where bone is forming they mean that the territories of bone tissue are first laid down in the shape of a myeloplax, but where it is being reduced they mean that the territories, by the liquefaction of their basis substance, are brought back to their original protoplasmic state.

As I have already said, the process of confluence of formerly separated corpuscles is splendidly shown in the earliest stages of a growing cancer. In the invasion of a lymph gland its central portion is generally first involved. Frequently we found an inter-follicular string completely transformed into a continuous protoplasmic mass, but still retaining its original shape. These masses of protoplasm are supplied at regular intervals with large globular or oblong nuclei, which it is highly probable are newly formed and have very little to do with the original nuclei of the lymph corpuscles. It has been shown that the myxomatous recticulum holds a delicate network of living matter, which after the liquefaction of the basis substance held in its meshes, can reproduce protoplasm. This is most probably the process through which the fibrous framework is merged into the same mass with the corpuscles. These masses are coarsely granular, which means that they are freely supplied with living matter at the points of intersection of its network.

The next stage ensues through the appearance of the cement substance in the shape of straight, light lines arising first in the midst of the protoplasm between the nuclei. Under the microscope we see but one projection of the cement substance, but, in fact, it must be considered as a cloak enclosing polyhedral bodies, which are the epithelia. At first the cement lines are scarce, and in many places traversed by broad bridges of protoplasm. Later on it assumes a regular polyhedral shape, though it is always pierced by delicate spokes of living matter which are the inosculations of the reticula of living matter contained by the neighboring epithelia. These threads are the prickles of Max Shultze. The next feature is the formation of a frame of connective tissue, which divides the large protoplasmic mass into small alveoli, the cancer nests. The first trace of this formation is the appearance of delicate nucleated spindles, which by being split up into very minute, slender spindles, build up the fibrous basis substance. Its ramifying blood-vessels are formed at the same time.

Not infrequently the cancer nests in the midst of lymph glands exhibit concentric onion-like layers of epithelia, which in all probability are the result of pressure from the contraction of the surrounding connective tissue. In the center of a nest we often see epithelia undergoing fatty degeneration. Sometimes it has gone to such an extent that a fat plug is produced, the so-called cancer pearl, which is surrounded by flattened out horny epithelia. I found this concentric arrangement in the first three cases, but the fourth exhibited a fibrous frame enclosing irregular alveoli filled with large granular epithelia, but without any regularity of position. This is generally known as medullary cancer, the other as epithelioma. The essential points in this study of the lymph glands are that their invasion by cancer show itself by the melting together of their components, and by this means forming large protoplasmic masses. These, in turn, by the formation of the cement substance, split up into polyrhedal epithelia, which in groups become ensheathed by vascularized connective tissue, and thus give rise to the cancer nests.

The study of the fifth case, which I, have already said was that of a rapidly growing primary cancer of the foot, drove me to the conclusion that almost exactly the same state of things is going on in cancer wherever it is found. For along the edge of fully formed carcinomatous tissue we saw other tissues that showed all the changes that I have just described. I was also convinced by this study that the infiltration of round corpuscles that is always found surrounding a carcinoma is really a part of the metamorphosis, and not an inflammation caused by the irritation of the growth, as has been taught by some. They are exactly the same thing histologically as the lymph corpuscles, and it is by their fusion that the myeloplaxes are formed. Thus I think we are warranted in saying that they are but a step of the fixed tissue corpuscles in their retrograde metamorphosis to the fœtal tissue from which the fully grown cancer nests spring.

For my clinical reader I have but one deduction from all this histological work, and that is, in his operations on carcinoma, to make a clean sweep of all tissues that seem infiltrated in the slightest degree. For if he removes all the completed cancer tissue and leaves only a small portion of this infiltration, he has left the most dangerous part of the whole growth, that which is still progressing.—*Arch. of Med.*

CHANCRE OF THE LIP AND EPITHELIOMA.—Two cases illustrating the resemblance which these two affections often present have lately been attending on the same day, and a careless observer having regard only to the local disease, and ignoring the history and age of the patients might easily have fallen into serious error. Nor is the diagnosis always easy when no fact is omitted which might influence the conclusion; but in the two cases before us, despite the similarity in appearance, there is corroborative evidence in each case, which leaves no doubt as to the nature of the disease. One patient is a man about thirty years of age and unmarried. He has a thickening of the edge of his upper lip slightly to the right of the centre. In the middle of this thickening there is a superficial abrasion on which the secretion and epithelium cake and scale. The whole lip is a little swollen, but if you pinch it between your finger and thumb you feel a hard circular rim to the sore about the size of a sixpence. Now look at the other man. He is a respectable married man, upwards of fifty years of age. He has a superficial sore on his lower lip to the left of the median line. The surface is almost exactly similar to the other man's sore; it is cracked, and has a tendency to scab and scale. It, too, has a thickened rim, but if you pinch it you find the resistance less than in the other case; but so similar are the sores, that if their positions could be changed I do not think you would be able to distinguish one from the other. Yet one is a cancer, the other the initial stage of syphilitic infection. How, then, can one distinguish them? First, the age and state of life make it probable that the young man's sore is a chancre, and the old man's an epithelioma; but thirty is not too young for epithelioma, nor is fifty proof against syphilis, though with age impetuosity yields to discretion. Epithelioma below thirty-five is very rare. Last year I operated on a man aged thirty-eight for a cancer recurrent in the cheek and glands of his neck, which had been operated on some time before in the country; but this is an exceptional case, and the age is of the greatest importance in aiding our diagnosis. Cancer occurs at the time when the tissues began to wear out, and epithelioma, especially, is almost always traceable to long-continued irritation.

Next, the position is a distinguishing mark in these two cases, for epithelioma is rare on the upper lip. The position of the sore on the old man's lip is almost characteristic, it is just opposite the notch in his teeth made by his pipe. Further, he confessed to having always smoked an unwaxed clay. If mere contact with porous clay is sufficient, after years, to set up cancer, you would conclude that there should be a corresponding sore on the upper lip; but the lower lip suffers most, for, owing to the weight of the bowl, the lower lip is pressed upon as well as rubbed.

A chancre may occur on either lip as it results from the virus having come into contact with a chance crack. In many cases it will depend on whether the person is underhung or overhung; for the lip most exposed is most liable to crack, and at the same time most likely first to meet in an embrace. Hunter maintained that neither the blood nor any of the secretions could convey the poison, but this is now known to be untrue. His reasoning on this point was most fallacious. If the blood, he argued, could produce syphilitic inflammation in a healthy wound, no subject affected with constitutional syphilis could escape from venereal ulcers; every time he was bled or he scratched himself with a pin, the small wounds thus produced would be transformed into so many chancres. Hunter overlooked the fact that the man's tissues by the inoculation were protected, for a time at least, from re-inoculation, but that to another both blood and secretion might prove contagious. There is abundant evidence now of the contagious nature of the blood during the secondary stage, of the vaccine from a syphilitic infant, and of the pus from the secondary ulcers on the lips; hence, there is no need to follow Ricord in his loathsome suggestions that these chancres of the lips were always the result of illicit contact.

The time during which the disease has been developing is another most important consideration in determining its character. The old man states that he has had ulceration, more or less, for five years, but that it is only during the last few months that the lip has caused him inconvenience. The other man counts his trouble by weeks, and gives six weeks as the time he first noticed the sore. Five years is an exceptionally long history for so small a development of epitheliomatous character all this time. It is probable that had he left off the irritating cause two or three years ago he might have escaped from the disease from which he is now suffering, for doubtful ulcers distinctly traceable to local irritation will often heal when relieved of the exciting cause. It is now about two years ago since I saw in consultation with Dr. Orton, of Kensington, an old gentleman who had been condemned by another surgeon for cancer on the inner side of his left cheek. He was suffering from an ugly looking ulcer with thickened edges, very like an epithelioma, but on inquiring into the history we found it had not been noticed more than six weeks or two months, and immediately opposite it we found a tooth stopped with an irregular amalgam stopping. It was clear that the ulcer was excited by the tooth, and I suggested that the tooth should be extracted, after which the ulcer completely healed. Had, however, the irritating cause been allowed to remain for months, it is highly probable that the sore in this old gentleman might have taken on an epitheliomatous character, and the medical man who first saw him would then have been correct in his diagnosis. Thus the time is of great importance in separating an epithelioma from a simple ulcer and from a chancre.

There is a stage in both affections when the glands under the jaw will be found enlarged, and I remember two patients came last year with sore lips, both with short histories and enlarged glands, and I refused to give a positive diagnosis till I had had an opportunity of watching them. One of these developed a syphilitic eruption during the following week, whilst the other proved to be suffering from an epithelioma growing much more rapidly than the one we have now under consideration. Time will always settle the diagnosis, for it is seldom, unless the patient takes mercury, that the eruption of syphilis is delayed beyond two months. The man before us with a chancre has now on his arms and trunk a few brownish papules which place the diagnosis beyond all doubt.—R. Clement Lucas, in *The Practitioner.*

The Segmented Character of the Spinal Cord.—Starting with the conception, which is not new, of the spinal cord as made up of a series of united segments, each one of which is furnished with a pair of anterior and posterior roots, Lüderitz has studied the cords of the water-snake, the rabbit, and man. The individuality of the segments he naturally finds to be more pronounced in the lower animals. In the human cord, when freed from the membranes and nerve-roots, there are no external marks of the divisions of the segments, except where the divisions of the nerve-roots are separated by spaces, and this is only in the dorsal region, where the segments are longest. Internal differences in the white matter at the middle and at the ends of the segments are evident only in the peripheral zone. In the middle of the segments the anterior and posterior cornua are slightly narrower than at the point of entrance of the roots.

While a comparison of the different parts of a segment shows but slight difference, a comparison of the segments one with another shows considerable variation. First, there is a marked difference in the length of the segments. This is dependent upon the mode of development. While originally the segments are all of about equal length, as development proceeds the growth goes on unequally, the segments in the cervical and lumbar regions lengthening more slowly than in the dorsal. As a result of this, the amount of gray matter in these regions is much less in proportion to the size of the nerve-roots which originate in these parts—is, so to say, denser in texture, than in the dorsal region, where the segments are longer.

A difference is also seen in the general shape of the large ganglion cells of the anterior cornua, which are more elongated and more loosely packed together in the region of the lower segments.—*Journal of Nervous and Mental Disease.*

The Safest Anæsthetic Known. — Dr. Richardson says that Methyline bichloride, ten fluid drachms, and absolute methylic alcohol, six fluid drachms, constitute the safest known anæsthetic when the methylic alcohol is absolutely pure.—*Lancet.*

OPTHALMOLOGY—OTOLOGY.

Osseous Tumors in the Auditory Canal.—Geo. P. Field, M. R. C. S., Aural Surgeon to St. Mary's Hospital, reports in *The Lancet* of April 1st, five cases in which he has removed osseous tumors from the auditory canal. His method of operation in most of these cases was to drill through the exostosis by means of the American dental engine, after the method first sugested and practiced by Dr. A. Mathewson, of Brooklyn. Mr. Field closes his paper with the following summary:

Bony growths in the ear may be most satisfactorily classed as—

I. Circumscribed tumors or exostoses made up of soft bone, with a pedicle.

II. Diffuse tumors or ivory exostoses (hyperostoses), hard in consistence.

The conclusions to be obtained from a considation of the cases which have come under my observation may be summarized as follows:

1. Where there is one tumor of the consistence of ivory occluding the canal, the only operation of any permanent service is that of drilling through the growth by means of the dental engine.

2. It is advisable in the drilling to use a metal guard to pass behind the tumor, in order to lessen the risk of any accident.

3. Where there is more than one tumor, operations of this kind are, as a rule, unnecessary, since in the case of multiple growths a triangular channel is usually found which may be kept open by other means.

4. In a very great majority of cases of aural

exostoses there has been no history of gout, rheumatism, or syphilis.

5. Some bony tumors in the ear, although filling up the external auditory meatus, are attached by a small pedicle, and can be easily removed.

6. A mechanical irritation, such as is produced by the presence of pus in the meatus, or such as might result from the effects of frequent sea-bathing, as I have pointed out,[1] 'is often a source of osseous tumors.

7. In the case of inprisonment of purulent discharge in the tympanic cavity by means of a growth of bone filling up the auditory meatus, and consequent production of grave symptoms, an operation is imperative.

8 (and lastly). If from the closing in of the auditory canal in both ears by bony growths very severe deafness ensues, an operation is called for. If the hearing in one ear is good, removal of an exostosis or hyperostosis for the relief of deafness in the other ear is not to be recommended, unless the existence of a pent-up purulent discharge within the tympanum be suspected. But obviously in cases where from an accident the patient has completely lost hearing in one ear, and subsequently, in consequence of a bony tumor filling up the passage of the other, has become too deaf to follow his occupation, an operation can hardly be dispensed with.—*Louisville Medical News.*

OBSTETRICS.

Simple and Aseptic Ovariotomy.—Two important papers have been sent to us, which assist in the discussion of one of the most interesting questions of the practical surgery of our own time. The first paper is by Professor Kocher of Berne, on "Ovariotomy in Switzerland," published in the number of the *Revue Médicale de la Suisse Romande* of April 15, founded on a paper by Mr. Alban Doran, which appeared in our own pages on the 28th of January last. The second paper is a reprint from the *American Practitioner* of last November, entitled "On Ovariotomy, by Thomas Keith, M. D.," but really written by Dr. Yandell, who explains in a prefatory note that, in a visit to Dr. Keith, "I had a stenographer take down such questions as I put, and the answers Dr. Keith made to them..........The paper has not had the benefit of Dr. Keith's revision." Of course the last statement lessens very materially the authority of the paper; but, even with this reservation, it affords ample material for instructive study.

In the first place, then, let us compare the results of ovariotomy before and after the use of antiseptics in the Listerian sense in Switzerland and in Dr. Keith's practice. Professor Kocher estimates the total number of ovariotomy cases in Switzerland up to the present time as 300, and the mortality 23 per cent. Quoting Doran, he takes 55 as the number of non-antiseptic cases, with 35 deaths—a mortality of 63 per. cent.; while the mortality of the cases treated antiseptically is only 11 per cent. Going on to the experience of individual operators, he shows that the six surgeons who have done the largest number of operations, and have operated both before and since the adoption of the Listerian precautions, "have diminished the mortality one-half since their use of antiseptics;" and he urges that it is a very strong argument in favor of the antiseptic treatment that it has enabled "twenty-three different operators, some of them with very small experience, to arrive at a result superior to that which Spencer Wells attained before the method of Lister." Putting aside a rare exceptional case of death from some accident—collapse or obstructed intestine, for example—nearly all the deaths are from peritonitis, which means infection. A death from peritonitis is, therefore, "a great reproach to the operator;" for we are now by antiseptics enabled certainly to avoid peritonitis as a sequence of ovariotomy.

If we ask what precisely are the antiseptic precautions on which Professor Kocher mainly relies, we observe a remarkable accordance with those of Mr. Spencer Wells, as detailed by him at the royal Medical and Chirurgical Society in February, 1881. Mr. Wells then wrote: "I feel still doubtful about the spray;" and he alluded to its "chilling effect" and said the "misty cloud occasionally obscures the field of operation;" and he argued that "comparative observations made under similar conditions with and without spray" were required before we could ascertain "what is the share which the spray, among other additional antiseptic precautions, has had in obtaining the better results which have undoubtedly accompanied their combined employment." It is interesting to find that Professor Kocher has given up the spray in private practice as "injurious in the conditions where it is not indispensable." He believes our precautions should not be concentrated on the idea of avoiding "infection by contact, that is, direct contact with macro-(not micro-) scopic bodies"—complete disinfection of everything which comes into contact with the wound or the peritoneum. With this idea he uses the spray before operation, to moisten the walls and the room so as not to operate in a cloud of dust. Passing over the spray question, we may say briefly that the precautions as to sponges, instruments, etc., and the dressings, are in Switzerland very much what Mr. Spencer Wells has adopted since 1878.

Now we pass to the very remarkable experience of Keith, as recorded by Yandell. They may be stated thus. In 230 ovariotomies done in fourteen years, without antiseptics, the mortality was nearly one in seven; but in the five years immediately preceding the use of the spray, the mortality was only one in ten and a half; and in the last year before using the spray, there was but one death in twenty-one cases—"the mortality was steadily diminishing all that time." In the first eight cases under antiseptics, there were two deaths, and then there was a run of eighty without a death. "The solutions used at first were not very strong. As we went on and got to operating in the hospital, we began to use them strong," and went on to use the regular 5 per cent. solution. Then high temperature—104° to 107°—never observed before antiseptics, were very often observed, and were explained by the absorption of carbolic acid. And death with convulsions and bleeding from the kidneys was regarded, no doubt rightly, as evidence of carbolic acid. And then Dr. Keith found that he himself was poisoned by the carbolic acid, and suffered from bleeding from the kidneys until he gave up the spray. Since March, 1881, he has not used antiseptics in ovariotomy, "in the proper sense of the word. Sometimes I do use very weak carbolic solutions, but not as spray; at other times I use water alone." Since leaving off the spray, and including twenty-six other cases done without it, Dr. Keith says: "I have had but a single death in a total of fifty-two cases done without antiseptics."

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[1] The author describes two cases in which sea-bathing seemed to have been the cause of the disease.

All this affords ample material for serious reflection. If in Switzerland antiseptics have been followed by a remarkable diminution in the death rate, if Dr Keith had one run of eighty cases treated antiseptically without a death, is an occasional death from carbolic acid poisoning (which may, perhaps, be avoided by not using solutions unnecessarily strong, or by the use of some other agent) to justify a surgeon in operating without more than ordinary protection against infection? What does recent experience in London say on this point? Has the mortality after ovariotomy in our large hospitals been smaller of late years than it was before? If so, can the diminution be explained by the increasing experience of the operators? On this point, the registrars of our hospitals may give some important evidence; and in the special hospital which may still be regarded as the head-quarters of ovariotomy—the Samaritan—the experience of the year 1881 should afford an array of important facts. In that hospital, the patients are very much of the same class of life, and are treated under very similar conditions by three operators of large special experience. Two of these surgeons use the spray of carbolic acid in every operation of a strength of one in forty, and follow out in the strictest manner all the precautions of the Listerian method. The third, after gradually diminishing the strength of the spray till water alone was used, gave it up altogether. Here, then, were the "comparative observations made under similar conditions with and without spray," proposed by Mr. Spencer Wells, carried out under singularly favorable conditions. And what has been the result? We have been informed that the committee has expressed a strong opinion against the performance of ovariotomy for the future without full antiseptic precaution; and the experience of 1881 would seem to justify this recommendation, however objectionable it may be to admit of any interference by a committee of laymen in practical details. Still, if in the same institution, at the same time, by operators of equal experience, the same operation with antiseptics is followed by a mortality of about seven per cent., and without antiseptics by one of about thirty per cent., the fact deserves very serious consideration, and is rendered additionally important by the apparently contradictory results of experience in Switzerland and in Edinburgh which have now led us to direct the attention of our readers to the matter.—*British Medical Journal.*

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Cincinnati, June 17th, 1882.

The Week.

THE OHIO STATE MEDICAL SOCIETY met on the 13th inst., at Columbus, with President Dr. Starling Loving in the chair and Dr. J. F. Baldwin at the Secretary's desk. Opening the session promptly, Dr. Loving greeted the Society with a welcoming address in which he expressed his appreciation of the honor conferred in elevating him to the high and most honorable position he then assumed. To him the compliment was all the more grateful in that he had not sought the place and was, on his part, wholly unexpected. He had been a member af the society since 1859; had contributed some unimportant papers, but confessed to having been an unworthy member in that he had done so little. On behalf of the medical profession of Columbus he extended a most hospitable welcome, hoping that henceforth they should have the pleasure of welcoming the Society every year to Columbus as the permanent place of holding the annual meeting. Concluding his remarks he at once entered upon the practical work of the day, calling for various committee reports, which were promptly forthcoming and acted upon, and papers called for in the order of business.

Dr. H. G. Landis read a paper on the Progress of Obstetrics and Gynecology; Dr. R. A. Vance read a paper on the Surgery of the Arteries; and Dr. D. N. Kinsman a paper on the Etiology of Consumption. Each of the papers were in turn discussed by the members.

In the evening Prof. Edward Orton, of the Ohio State University, delivered a lecture on the Relation of the State to Public Health. We regret not being able to give our readers a full abstract of this exceedingly able and practical address. The Society, at its conclusion, ordered the publication of one thousand extra copies. We only wish a copy could be placed in the hands of every family in the State.

Wednesday morning papers were read by Drs. N. P. Dandridge, P. S. Conner, and Sidney Norton.

In the afternoon amendments to the Constitution were adopted, and, strange to say, without an anticipated wrangle. Papers were read by Drs. S. C. Ayres, W. H. Mussey, and Philip Zenner. The papers were all fully discussed.

The election of Officers for the ensuing year and the appointment of Committees took place at two o'clock.

Dr. C. P. Landon, of Westerville, was elected President, and Dr. Geo. A. Collamore, of Toledo, Secretary, after which the President delivered his annual address. This was the production of a master, the speaker declaring his adherence to and ably defended the principles of regular medicine and its honest and honorable practice, frowning on quacks and quackery both in and out of the regular profession, holding aloft the standard of true and scientific practice as set forth in the code of ethics of the American Medical Association.

Wednesday evening the members of the Society were handsomely entertained at the Deaf and Dumb Asylum, where, after being shown through the institution, which by the way is one of Ohio's noblest State charities, and in its management and excellent government every citizen may take a laudable pride, the Association was gathered in the chapel where an unique entertainment of music and pantomine greeted their eyes and ears; Dr. J. R. Black, of Newark, delivered an admirable lecture on Preventable Diseases, after which the members were invited to an elegant collation spread for their benefit in the dining hall.

Papers sufficient to occupy the entire time of the Society for the succeeding day were announced.

All in all the meeting was one of the most profitable in the history of the Society. Very much of which was due to the admirable executive skill displayed by the presiding officer, Dr. Loving, and the gathering and putting the business in shape by Dr. Baldwin, the efficient Secretary of the Society during the past four years.

J. J. Wertheimer, of the firm of Harter & Co., Chemists, St. Louis, is in the city.

Miscellany.

Observations on Mania.—In the feverish search for new facts in mental science, many an old but sound observation runs danger of becoming so antiquated that its resurrection strikes the student in the light of a novelty. Dr. Donkersloot, of Utrecht, a few years ago asked for the experience of his colleagues on the relation of the color of the hair and eyes with special forms of insanity. He had found that mania predominated with blonde persons and melancholia with those of a darker complexion. We have observed this also, and as old a writer as Esquirol called attention to the same fact. Dr. Donkersloot's observation that mania occurring with blondes and melancholia with brunettes present better prospects of recovery, than where the complexion and the psychosis do not harmonize, is new, and if correct, valuable and suggestive.—*American Journal of Neurology and Psychiatry.*

"Digitated Stockings."—We are inclined to think that digitated stockings—that is, stockings with a stall for each toe —would conduce much for comfort, and spare many persons who now suffer from the development of soft corns between the toes a serious trouble. They would also prove more cleanly than the stockings in common use, because they would naturally absorb and remove the acrid moisture which accumulates between the toes. and which is the general cause of offensive odors from the feet. They will, moreover, give the foot better play, allowing its phalanges greater freedom of action. And, lastly, a well-fitted digitated sock or stocking will remove a mass of material from the toe of the boot, and at the same time give increased breadth and space for expansion across the base of the toes. The new stockings, supposing them to be well cut and fitted, possess many advantages.—*The Lancet.*

INTRA-CRANIAL CIRCULATION DURING THE HEART'S INACTIVITY.—M. Franck has detailed to the Société de Biologie, an experiment which completely ruins the classic theory of Richet on the role of the cerebro-spinal fluid in cerebral anæmia dependant upon a stoppage of the heart. It is generally admitted that the liquid of Cotugno oscillates from the cranial to the spinal cavity, and inversely, with each cardiac revolution; thus filling the void produced in the skull during the heart's diastole and returning to the spine at the moment that the arterioles of the cerebral pulp are filled. Franck places an elastic ligature about the meninges of the superior part of the cord, and the heart being stopped, he finds by the aid of an opening in the skull, that instead of a retraction of the brain there is a tumefaction with intense congestion of the veins, and considerable blood-pressure. It follows that arterial anæmia is accompanied by nervous congestion; the void produced in the cerebral pulp by the diminution of calibre of the arterioles is compensated for by the repletion of the veins and not by an afflux of cerebro-spinal fluid.—*Progrès Médical.—St. Louis Med. & Surg. Journal.*

THE CASTOR-OIL PLANT AS A FLY-KILLER.—Observations made by M. Rafford, a member of the Société d'Horticulture at Limoges, show that, a castor-oil plant having been placed in a room infected with flies, they disappeared, as by enchantment. Wishing to find the cause, he soon found under the castor-oil plant a number of dead flies, and a large number of bodies had remained clinging to the under-surface of the leaves. It would, therefore, appear that the leaves of the castor-oil plant give out an essential oil, or some toxic principle which possesses very strong insecticide qualities. Castor-oil plants are in France very much used as ornamental plants in rooms, and they resist very well variations of atmosphere and temperature. As the castor-oil plant is very much grown and cultivated in all gardens, the *Journal d'Agriculture* points out that it would be worth while to try decoctions of the leaves to destroy the green flies and other insects which in summer are so destructive to plants and fruit-trees. Anyhow, M. Rafford's observations merit that trial should be made of the properties of the castor-oil plant both for the destruction of flies in dwellings and of other troublesome insects.—*British Medical Journal.*

ACCURACY OF SIGHT AND TOUCH.—Prof. H. P. Bowditch and Dr. Southard have been comparing the senses of sight and touch. The method was as follows: The experimenter was seated at a table covered with a large sheet of white paper, upon which a small movable object was placed. After various experiments the most convenient object was found to be a small brass disc about five millimetres in diameter, having in the middle of one side a small projecting point. This object was placed in different positions on paper, a short rod being used for moving it about without touching it with the hand. The experimenter then having observed its position, closed the eyes and endeavored to place the point of the pencil held in the right hand as accurately as possible upon the disc. The error, that is the distance between the disc and the pencil point, was then measured and recorded. In a second set of observations the experimenter closed the eyes and placed the disc in position with the left hand. Then withdrawing the left hand and keeping the eyes still closed, he endeavored to place the pencil point upon it as before. In a preliminary series of experiments comprising sixty trials, in half of which the position of the object was determined by sight, and in the other half by touch, it resulted that the knowledge of position in space obtained through the sense of sight is nearly twice as accurate as that obtained through the sense of touch. They also tried indirect vision, the effect of using the same or different hands in the localization and in search, the effect of time and fixation of the head, and arrived at the following results. The most accurate spatial knowledge is obtained by direct vision. At all the intervals the average error was less when the position of the object was determined in this way than by any other method. The effect of fixing the head is to diminish the accuracy of the localization, but even under these circumstances the errors are nearly in every instance less than those met with in the other methods of experimenting. The method next in accuracy is that of localization by touch with the same hand by which the movement in search of the object is executed, the head being free to move. Next in order of accuracy of localization come the two sets of experiments with indirect vision, that performed with reflected sunlight giving results slightly inferior to those of the other set. Least accurate of all the methods employed, is that of touch with the opposite hand. Direct vision gives the best results, that of touch with the opposite hand the worst, and the other methods occupy intermediate positions. In regard to time, it was found that with the increase of the interval between the determination of position of an object and the atetmpt to place the hand upon it with closed eyes, the accuracy of this movement at first increases and then diminishes, the maximum of accuracy etc. being attained after an interval of two seconds.—*Foster's Journal of Physiology*, vol. iii, Nos. 3 and 4.

HUNGER AND APPETITE.—M. Leven remarks, in a paper read recently to the Société de Biologie, that hunger and appetite are two sensations which have been studied by physiologists, but of which the analysis cannot be made by the experimental method. These two terms are employed indiscriminately one for the other, but they have different significations. Hunger and appetite can only be studied in the human subject, either in a healthy condition or in a state of disease. Pure hunger can only be observed in new-born children during the three or four months of life. Impelled by the instinct for food, they take the breast of the nurse, draw from it a quantity of milk sufficient to satisfy this instinct, and go to sleep, until the sensation of hunger awakens them, and they again take the breast. Hunger in infants is a simple sensation that milk alone can calm. If any other food be added to this repast, the weak organism of the infant is put into jeopardy. Four or five months should be allowed to pass until the strength of the child is increased; the organs will then be stronger, and eggs and broth, and farninaceous foods, may be added without risk. At this period of existence, the intelligence of the child will show itself; it will accept and refuse on a certain day such and such of these foods, after having consulted the nerves of taste and smell. Its brain become active, and only obeys the impressions which are imparted to it by certain substances; so long as it alone drank milk, the brain was passive, impelled only by the instinct of hunger; when the nerves of taste and smell intervened, it was determined by appetite. We must, therefore, distinguish between hunger, which only has its origin in a nerve, and the sensation of appetite which is the result of the sensations provoked by the nerves of hunger, smell and taste.

Whenever we take a meal when in a healthy condition, these three groups of nerves act simultaneously. The appetite may remain intact in dyspepsia; but, as a rule, it decreases or disappears entirely. The nerves are simultaneously disturbed; food has a disagreeable smell and taste, if taken without hunger. In a great number of cases, the functional disassociation of these nerves occurs, and hunger is observed modified alone, without the nerves of taste or smell being touched; or the nerves of taste alone are attacked, or even the nerves of smell are deranged, when the nerves of hunger and of taste have escaped the influence of dyspepsia.

These different functional disorders may be characterized as follows. In certain patients, so soon as a mouthful of food taken with pleasure, and welcomed by the nerves of taste and smell, is introduced into the stomach, hunger is calmed, and the patient dares no longer to continue the repast; or, if he do so, he has sensations of nausea. In other cases, the hunger incessantly increases, and is as acute when the meal is finished as before it is commenced. This is what is termed bulimia. Nervous and dyspeptic individuals, who feel the necessity of eating, no longer find the normal taste in the food, or else they have a craving for exciting or extraordinary substances, such as vinegar, chalk and charcoal, and would with pleasure fill the stomach with these materials. Pregnant women show types of these derangements of the taste, in dyspepsia brought on by pregnancy. Finally, there is another category of dyspeptics in whom the nerves of smell only are deranged in action. M. Leven has treated a patient, forty years of age, suffering from dilatation of the stomach, who was hungry, who took meat with pleasure; but for twelve hours it left with him a sensation of putrefaction, which only disappeared when the stomach had recovered its natural condition. The seat of hunger is, however, a point which is not yet determined. Sédillot and Longet have cut the pneumogastric nerves in dogs, and have seen them eat three or four days after the operation; but they have never been able to cut the great sympathetic. It is not, therefore, that nerve which, in the absence of the pneumogastric nerves, transmits the sensation to the stomach and to the brain?

Longet and Schiff have maintained that hunger is not seated in the stomach, but in the whole organism; that we hunger throughout all our tissues, in our muscles, and in our nerves; and that a true equation may be established between the degree of hunger and the losses of the organism. It is easy to object to this that some people never feel hungry, and that the greatest wasting of the organism occurs in the febrile condition when there is no hunger.

Schiff has made experiments to show that hunger is not localized in the stomach. He took fasting starving dogs, which howled incessantly. He injected peptones into their veins; the dogs left off howling. All physiologists have, however, observed that, if water be injected into the veins of fasting dogs, they leave off howling, and become quiet, so that nothing can be deduced from these experiments. That, however, which appears certain is, that the sensation of hunger is localized in the stomach, and transmitted to the brain by both the sympathetic and the pneumogastric nerves. In order that hunger should be felt, it is necessary that the mucous membrane of the stomach should not be congested, and that it should be in a healthy condition.

The practical deduction to be drawn from these data is that hunger cannot be restored by medicine, but by an alimentary regimen, by making the number of meals of solid food in proportion to the congested condition of the mucous membrane. Hunger cannot be restored by the use of quinine wine, iron, or bitter preparations, but by treating dyspepsia in a rational way.—*British Medical Journal.*

COLONY TREATMENT OF THE INSANE: A VISIT TO FITZ-JAMES, AT CLERMONT, IN FRANCE.—Abstract of remarks made at the annual conference of members of the State Charities Aid Association.

No one can doubt after listening to the able letter written by Mrs. Lockwood and read by our Chairman, that occupation, exercise, amusement, light, air, and space, are most important desiderata in the treatment of our insane; one does not need to appeal to any further authorities than those already given on these points. But Dr. Potter has, I fear, rather magnified the scope of the few remarks which I stated I would make, when he says that I shall refer to a considerable number of asylums. I had particularly in my mind only a few points relating to two special institutions, which I took care to visit this summer while in Europe, because I thought they would be extremely instructive to Americans who are interested in treating the insane—instructive to these very points of occupation, labor, amusement, light, air, and space; and these institutions are, indeed, very suggestive in holding up a contrast to our own methods—how strong a contrast I shall call attention to, simply by comparing facts gained from my visits with facts gained from personal observation of some of our own asylums, and statistics culled from their reports, a few of which I have in my hand.

The easiest way to place before the Conference the great and reasonable amount of liberty with which insane patients can be treated, and the amount of work which they will willingly perform, is to take a bird's-eye view, so to speak, of these two famous institutions I have alluded to—I refer to the colony of Gheel, in Belgium; and, secondly, to Fitz-James, at Clermont, in France.

Visit to Fitz-James.—I went to Fitz-James a few weeks after visiting Gheel. And here I may say at once—though I know there are violent sides taken in the whole matter of the comparative merits of the colony system and the close asylum system—I may say that I believe Fitz-James to be a most splendid example of what may be termed the segregation or separation system of treating the insane, and of the curative effects produced by labor and occupation.

On the day of my visit, there were 1,000 patients in the colony—and here the word colory may be appropriately used, for Fitz-James consists essentially of two main portions, a central asylum and some immense farms, lying about a mile away. The central asylum corresponds in certain main characteristics to any other close asylum. It is its association with outlying farms that gives Fitz-James its special distinctive features, and in the use that is made of these farms. The farms themselves consist of about 1,500 acres of the most cultivable and excellent land. An omnibus service goes back and forth between the asylum and the farms, conveying outward the insane who are willing and able to work, and bringing in those who are tired and wish to return. Comfortable lodgings are provided for those who are out at work. And here I may note in passing, that no threat more effective in inducing a refractory patient to obedience can be found than telling him that he will be taken back to the central asylum. There are no exceptions to the classes of patients received at Fitz-James. As far as the quality of its patients is concerned, Fitz-James is exactly like the institutions on Blackwell's and Ward's islands. The comparison that I must soon institute must, therefore, in this instance, be an extremely fair one. The main characteristic of the central asylum was a number of large and roomy court-yards in which were trees, walls, grass-plots, plants, and benches. These court-yards, of which there were six, communicated directly with the sleeping apartments. I recall very nearly the numbers who occupied these courts or their connecting wards. In the first there were fifty patients who were old, feeble, convalescent, or desiring to escape; in the second, 45 on trial before going out to the farms; in the third, 50 epileptics; in the fourth, which was the infirmary, there were also 50 sick; in the fifth, 46 who were "dirty;" in the sixth, 10 who were "excited,"—in all 251 out of about 850 men who were at the central asylum. Now this is what astonished me, the remaining 600 were out at work; how enormous this ratio compared with our own similar institutions we shall soon see. Another 150 patients, making up the full thousand, were women, subject to the same classification as above.

I saw no form of restraint anywhere in the whole asylum, except bars on the second-story windows of the part used for a hospital. The reason given for this conspicuous lack of restraint was that nearly all the patients, being at work, were extremely docile and did not require restraint. I never saw patients so quiet, calm, and interested in their pursuits as in this asylum.

An interesting feature of the central department is the so-called "trial garden," a large tract of cultivated ground, where the patient about to be trusted on the large farms is first tested to see if it will do to send him out.

I next went to the farms and took a note of the condition of affairs; I regret that time will allow me to present, in the briefest manner, a few only of the most salient points. The farms are two in number, large and adjoining, comprising 1,500 acres, and named respectively Fitz-James and Villers. Fitz-James has three departments: first, for men, both paupers and paying; second, for pauper women; second, pauper women; and third, for paying women. Of the men and women who paid, little need be said; the average price was $50 per months; their quarters were pleasing; each, as a rule, had his or her own servant, and wandered about the farms and gardens pretty much at will. But the work and occupations of the pauper men were more interesting. I traversed fertile fields, where the crops were being harvested; haystacks and piles of potatoes and other root vegetables gave evidence of the fertility of the soil, while approved and modern tools showed the practical farmer. The patients worked in gangs of from 20 to 30 men, each with an associate attendant. In all 167 were employed here. In the stables were 40 horses, in the sheepfold, 1,800 sheep; there were also 200 cows, 80 pigs, and 400 hares. All this I mention, not alone to show that there was room for labor for all, but to point out also, at the same time, the self-sustaining character of this colony. Near by was a blacksmith's shop in which the insane were employed, a mill, and a butchery.

But the most interesting of all, perhaps, was the second department — that devoted to the labors of 150 insane women.

A pretty little stream came down through the trees from the neighboring hills, and over a section of this stream was built the laundry; near by was a dining hall and dormitory, with 150 plates set along the tables in the lower halls, and as many beds on the second floor. In the laundry is done all the washing of the entire institution. Here were washing machines, drying machines, and a steam engine of ten-horse power, whose engineer was a woman attendant, and whose *fireman* was an insane woman. Along the edges of the stream, as it passed through the building, were arranged, in double and facing rows, fifty patients engaged in washing clothing; they were happy, industrious, and interested; if they didn't want to work, they were at liberty to return to the central asylum. Other women were busy in the drying room, and still others were ironing and folding. And to direct and manage these 150 women there were simply one chief directress and eight sane employees.

The second farm, Villers, resembled in most respects the first, except that it was more exclusively devoted to agricultural field labor. Here most of the kitchen vegetables of the institution were raised; nothing is sold, but all is consumed by the colony; 130 patients were employed, with fifteen guardians or head workmen; here there were 600 sheep, 32 oxen, and 15 horses. The dormitories were comfortable, and the patients apparently contented.

Each farm has its head agriculturist, who in turn is responsible to Monsieur Labitte, the brother of the medical superintendent.

Here again, then, we find, as at Gheel, an administrative, distinct from a medical, service.

But I am passing, I am sure, far beyond the time allotted to me. Your attention to these details must be my apology.

It only remains to contrast the two institutions of which I have spoken with some of our own in regard to this point of occupation for the insane.

The Government Asylum at Washington is as as good as any for this purpose. According to this report in 1879, out of a total of 819 patients, 50 were trusted to take part in some occupation. I visited the hospital in April last, and then, out of a total of 873 patients 127 were at work outside the building. Here a beginning has been made in the right direction; the government made a small appropriation for temporary buildings, and fifty selected patients were placed in them, with doors and windows unfastened. "The result," says W. W. Godding, the able superintendent, "has more than justified our expectations." And now Congress has appropriated $30,000, which is being expended in erecting another building, of the open-door-and-window type, where manifold avocations will be furnished to patients willing and glad to employ their time in this manner.

At Ward's Island, in 1874, there were 673 patients, of whom 40 were sent out-of-doors. In 1877 no mention at all is made of employment. I can only find that certain squads were taken out at pleasant days. In the next year's report (1878) we are told that in the previous year there were 83 employed in various kinds of labor outside the wards, and that in 1878 out of nearly a thousand patients there were 125 employed. Contrast this with the 600 out of 850 employed at Fitz-James; or contrast the penned-up female insane of Blackwell's Island with the busy laundry on the same farm.

The best example of the colony system to be found in our own country is the Willard Asylum for the chronic insane poor, at Ovid, N. Y., under the intelligent control of Dr. John B. Chapin. Here exists great farms, and extensive and organized labor, occupation, and amusement; in short, a humane method of treatment that will compare favorably with the best colony systems abroad. This institutions should be well studied in connection with Gheel and Fitz-James.

But I do not wish to criticise our institutions. I must, however, confess, in closing my remarks, that in studying Gheel and Fitz-James, I have been astonished at the industry of the insane and at the large liberty which may be safely and reasonably granted them. Of the curative power of this industry and liberty no one has any doubt, and I will not here delay to prove the point by an appeal to statistics. A single case, one of many taken from Dr. Peters' record, tells its own simple story:

"A patient named Mary V., No. 6,094 on the register, suffered from delirous melancholy. Energetic moral and other treatment, and the devoted attentions of the 'sisters' did not succeed in modifying her condition. She spent the day in lamentation, saw the preparations for the frightful punishment which she believed she would be obliged to suffer, and slept neither day nor night.

."She was entrusted to an intelligent and devoted nourricier, who lived on the farms, with instructions to exercise proper supervisions and kindness, to make her life as calm as possible, to provide proper occupation for her, and to look after the regularity of the excretions. Mary V. was scarcely installed in her new home before her condition modified favorably. Her delirium became somewhat less active. She mourned less, and soon took part in the household labor with the wife and daughters of her guardian. Her appetite became excellent, her sleep normal, and she increased in flesh. This improvement developed at the end of four months into a permanent cure. Before leaving, the patient came to thank us, and when I congratulated her on her rapid and complete cure, she replied:

'I would never, I believe, have recovered at the infirmary. *The presence of the other patients fed my delirium and my unrest.* As soon as I had entered into the calm and happy home of nourricier G. I felt my senses grow clearer and my heart encouraged.'"

It is true that Gheel is exceptional, but clearly the comparison with Fitz-James is a fair one. Gheel in its entirety is probably an ideal which can never be repeated by any other nation, for the simple reason that there is but one village of Gheel, removed from the world's traffic and turmoil, where the inhabitants, by reason of centuries of inheritance, have learned patience, tact, and fearlessness in their dealings with the insane.

But though the "Gheel idea," *i. e.*, the "family system," consisting of a large number of families who would receive into their midst a thousand or more insane, may not be repeatable, the essence of this idea, *i. e.*, a large and reasonable liberty, healthful and sufficient employment, and accustomed and congenital surroundings, is repeatable, but not certainly in any of our great asylumn buildings. Gheel teaches us the possibilities that exist in the treatment of our insane. It shows that the insanse will work cheerfully if well managed; that they may be trusted, under proper precautions, with great liberty and not abuse it; and that though in the highest degree intractable in restraint, with liberty they become docile.

In Gheel we find our suggestions. In Fitz-James we find these suggestions carried out with a degree of practical, organized, working perfection, which I believe both in its humane and its utilitarian aspects has yet to be equalled either at home or abroad.

Surely these institutions are worthy of our profound study.—William J. Morton, M.D., in *Journal of Nervous and Mental Diseases.*

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THE AMERICAN MEDICAL ASSOCIATION.

ST. PAUL, MINN., June 11, 1882.

Editors Lancet and Clinic:

To epitomize the thirty-third annual session of the American Medical Association is one of the most difficult tasks ever imposed upon me. The whole meeting was rich in good papers that will not be epitomized, and the discussions were oftentimes of such a nature that only stenography could do them justice.

St. Paul is very proud that she has been able to attract the largest attendance the Association has ever mustered, with the single exception of the meeting in New York City some years ago. With her large number of resident physicians and all her local attractions New York had an attendance of eleven hundred, while St. Paul, which a few years ago was considered an outpost of civilization, attracted nine hundred delegates with more wives and daughters than ever went abroad before to a scientific meeting.

The old-timers, who had known Woodward and loved him, came together with sadness. Woodward was really the only *man* who was in attendance upon Garfield, and his responsibilities were greater than the public can ever know. Worn by the vigils of last summer, and by the sequelæ of a serious injury, Woodward has gone to Europe to battle for his life. Frank Hamilton says that he will never fully recover, and the Association was clouded by this information from the beginning. During the first day's session the secretary was ordered to send by cable the sympathy and regrets of the Association and express the universal hope against hope, that he might be restored.

We were agreeably surprised in the first Vice President, P. O. Hooper, of Little Rock, who, in Woodward's absence, became our presiding officer. We forgive him his long, turgid inaugural address when we remember how sharp and clear were his decisions, and withal how patiently he bore himself through the four days' session. Doctors have the gift of gab so frightfully developed that their President must preside in fact, or the day will run away without anything done. The Chicago meeting was one that shall be a parable to the end of time. A lax President allowed everything to be debated until the precious four days were frittered away and nothing was to show for it. Certain delegates indeed went home from that meeting determined to attend no more.

The curiosity to see and hear what the Association would do with the New York delegation was very great, and the opera house was packed, until it was discovered that the Judicial Council would deal with that matter in the privacy of their committee-room. But in the first general session the Association found more than one pretext for an emphatic expression of opinion. In Hooper's address he came near the subject with a declaration that we could not afford to surrender ground that had been won and held by hard fighting. The words were hardly out of his mouth when they were cheered by the audience. Doubtless there was a strong minority in the room that under the circumstances had no voice, for the applause was so emphatic that opposition then and there would be absurd. After the address was done the Secretary read communications from various sources and presently came the protests against the action of New York which protests were sent up by State, county, and other societies. As each one was read and referred to the Judicial Council the cheering was prodigious, and while we may not presume that the august council would be influenced by the *vox populi*, yet it could not be doubtful whether the Association would adopt any report that had the flavor of New York about it.

You know the conclusion of the whole matter. The resolution proposed by the Council neither approves nor censures the New York code. Had the Council gone into the merits of the case there would have been two hundred and fifty able speeches made, and the matter would have remained just where it is now. The Council wisely brought in a resolution declaring simply that the New York platform is incompatible with the National Code, and on that ground denies admission to her delegates.

What will New York do? New York went home,—at least the delegates went home, leaving only a few permanent members, Sayre among them. No one pretends to say what she will do. During the coming year the New York *Medical Record* will continue her pharmacodynamical missionary work, no doubt, and New York may prove to be the little lump of leaven which a woman took and hid in three meaaures of meal. The National Code may be amended or it may not, but, having felt the Association's pulse, I am confident that it will be amended after solemn deliberation, if at all. If the action of New York had been less precipitate, if the State had sent up her delegation to represent first of all, that the National Code was not perfect, and had suggested certain changes, those changes might have been obtained after a reasonable time for discussion. But New York has simply passed an ordinance of secession, and may and must endure the disadvantages along with the advantages of her freedom.

Will there be a new New York State Medical Society? There will,—and soon, and its delegates will represent the State at the next meeting of the Association. The rural practitioners will make haste to repudiate the action of the State Society, and say with some reason that the recent action was rushed through by specialists in the city of New York—Roosa, Agnew, and others. If a new departure ever brings about a compromise with homœopathy it will not be initiated in Minnesota. Your clients, Mr. Lancet, can name many so-called homœopathic physicians who are apostles of clean speech and clean linen, who are giving all sorts of drugs in all sorts of doses, who are good anatomists and physiologists, who do not live by slander and theft, and who scorn the idea that they are bound by any "system of prac-

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Vol. V. Cincinnati, May, 1882. No. 5.

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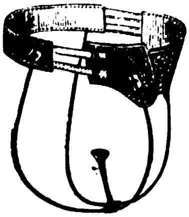

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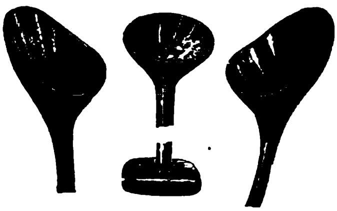

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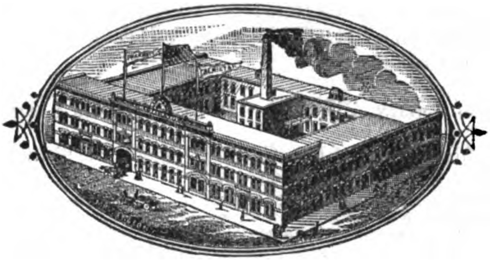

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